

OPERA FROM BRUSSELS: SEE SPECIAL ARTICLE BELOW.



THE OFFICIAL ORGAN OF THE B.B.C.

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EVERY FRIDAY.

Two Pence.

OFFICIAL PROGRAMMES OF THE BRITISH BROADCASTING COMPANY.

For the week commencing
SUNDAY, November 30th.

LONDON	CARDIFF
ABERDEEN	GLASGOW
BIRMINGHAM	MANCHESTER
BOURNEMOUTH	NEWCASTLE
	BELFAST

SHEFFIELD (Relay)	PLYMOUTH (Relay)
EDINBURGH (Relay)	LIVERPOOL (Relay)
LEEDS-BRADFORD (Relay)	
HULL (Relay)	NOTTINGHAM (Relay)
STOKE-ON-TRENT (Relay)	
DUNDEE (Relay)	

SPECIAL CONTENTS:

MUSIC AND NOISE—THE DIFFERENCE.
By Sir William Bragg.

A PEEP INTO FRESH FIELDS.
By Arthur R. Burrows.

THE STORY OF "CARMEN."

OFFICIAL NEWS AND VIEWS.

LISTENERS' LETTERS.

PROGRAMMES FOR ALL!

"5XX" HIGH-POWER STATION TO BE PERMANENT.

TWO distinct programmes are now available nightly throughout Great Britain for valve users. This is due to the regular operation of the new high-powered station at Chelmsford ("5XX"), which is working on a wave-length of 1,600 metres. The adaptation of wireless sets to this higher wave-length is, in the majority of cases, a simple matter and will be found well worth while. Early next year the high-powered station will be moved from Chelmsford to a more central position at Daventry, in Northamptonshire. This change in position is unlikely to affect valve reception, but will materially add to the area over which crystal reception will be possible. The B.B.C. attaches great importance to this new service, for not only does it mean an alternative nightly programme of national standard for all valve users, but it places the benefits of broadcasting at the disposal of every home and cottage within at least one hundred miles radius of the new station.

THE success of "5XX" at Chelmsford has provided an opportunity for putting into practice an ideal that has long been nursed by the programme department, and awaited by the listening public—the provision simultaneously of programmes so contrasted as to appeal in some measure to all tastes and temperaments.

The most effective contrasts can only be decided by experience, but some useful data should soon be forthcoming, for two experiments are to be made before the New Year—one on December 16th and the other on December 20th.

On December 16th, Chelmsford will transmit a performance of *Prince Igor*, played at a Brussels Opera House, and relayed by wireless from the Brussels Station. In contrast to this, the London Station will, at the same time, provide an evening of musical excerpts by a light orchestra.

The scheme of contrasted programmes will be developed a stage further in the New Year, when the high-powered station, now at Chelmsford, will broadcast three special programmes weekly. These will contrast with those given by the London Station and (except on Tuesdays) by the majority of provincial stations.

On each Tuesday beginning with the first Tuesday in January, Chelmsford will take a second programme from Savoy Hill. On January 6th, London will broadcast a symphony concert, while the high-powered station will broadcast a ballad concert. As the symphony

concert from London will also be broadcast simultaneously from the provincial stations, there will be alternative programmes throughout Great Britain for the possessors of valve sets.

On each Thursday, beginning with New Year's Day, the high-powered station will broadcast a distinctive programme provided either by some outside source within the metropolitan area or in the provinces—such, for instance, as the Hallé Orchestra at the Free Trade Hall in Manchester, or De Groot and his Orchestra at the Piccadilly Hotel, London. This programme will again be made to contrast not only with that from London, but, so far as possible, with most provincial programmes.

On each Saturday, one of the provincial stations will provide the high-powered programme. The first one will come from Bournemouth on Saturday, January 3rd, when light symphony music will be broadcast in contrast to a popular orchestral programme at London, and other equally distinctive programmes in the provinces. In January, other Saturday evening provincial programmes for radiation by the Chelmsford Station will be provided by Cardiff, Birmingham, Manchester and Glasgow. Each will be of a "feature" character.

On Mondays, Wednesdays, Fridays and Sundays, the high-powered station will broadcast the same programme as London, but instead of taking the religious address regularly

(Continued overleaf in column 3.)

A Peep Into Fresh Fields.

By Arthur R. Burrows, Director of Programmes.

THE average listener whose set is deliberately constructed to respond best to signals transmitted within the limits of the British broadcasting wave-band of 300-500 metres has little opportunity for making first-hand acquaintance with other fields of wireless activity outside broadcasting.

If he lives near the coast, he will probably have realized by now how considerable is the traffic conducted by wireless means between ships at sea and the several stations on our coasts and the coastline of France, Belgium, and Holland. These stations work mainly on 600 metres, just outside the highest limit of our wave-band.

The Joys of Exploration.

If we readjust our receivers so as to receive efficiently on higher wave-lengths than those employed for broadcast telephony, we find before us an astonishing field for exploration. Rising to 900 metres, we are almost certain, if listening during the daytime, to hear more telephony—not broadcast music this time, but the voices of airmen soaring above the clouds between Croydon and the capitals of Western Europe. They are probably asking for bearings or giving information upon their whereabouts to the aerial traffic controllers at the termini.

It is quite a fascinating means of whiling away an hour to sit with the receiver tuned to 900 metres and to listen to the various reports on position transmitted to and from our air expresses.

Rising higher in the realm of wave-lengths, there is little of interest to the possessor of a crystal set, if we except the telephony programmes of Chelmsford and, perhaps, Radiola; but the proud possessor of valves and suitable circuits will be constantly striking upon some commercial telegraphy station transmitting Morse on a flutelike note.

The "Everest" of Wireless.

In several cases the Morse characters are being radiated at such a speed that it is impossible to distinguish them aurally; they are being transmitted and received by electro-mechanical means. Some of these, mostly on wave-lengths between 2,900 and 4,000 metres, will be messages passing between the wireless stations of the European capitals, others on higher wave-lengths—say, from 8,000 metres upwards—will be messages in the process of exchange between Europe and America. Some may consist of time signals and weather reports deliberately broadcast telegraphically for the benefit of mariners and others in isolated places. Amongst the stations taking part in these public services is Bordeaux, the "Everest" of wireless, with a wave-length of 23,400 metres.

Radio versus Nature.

This brings me to the fact that wireless is daily expanding its field of usefulness, though mostly in other countries. Whilst the light-ships round our coast are gradually being equipped with wireless telephones so as to do away with the heavy repair bills usually associated with shallow-water telephone cables, portable wireless apparatus is not encouraged in this country, and if we except the wireless section of the "flying squad" at Scotland Yard and the several varieties of portable equipment used by the Army, Great Britain cannot claim to be taking an active part in applied telegraphy or telephony.

In America things are different. Fire brigades find wireless of value as a means of keeping in touch with headquarters during a serious outbreak; at least one railroad communicates by wireless means with the officials on its expresses, and one State uses wireless in the survey of its

roads and for the summoning of repair gangs in the event of highways being damaged by wind or flood. One island on the West Coast of the United States is actually linked with the telephonic system of the mainland by wireless means, and it is possible thereby for anyone on the island to indulge in telephonic conversation exactly as one would do on the usual public telephone service.

The March of Progress.

America has also used wirelessly-equipped aeroplanes to great effect for the discovery of forest fires. Many square miles of valuable timber and numerous villages have been saved by early aerial indications of these dreaded conflagrations.

The Canadians have used aeroplanes and wireless not only for surveying purposes, but as an aid to their fisheries. Much time and labour can be saved when it is possible to indicate by aerial reconnaissance the exact whereabouts of the shoals. At a recent meeting of the Canadian Land Surveyors' Association it was stated that radio is revolutionizing exploration and survey work in the Far North and that, whereas, surveyors in the past had to rely upon chronometers for their time and, incidentally, their positions, and were consequently in continual fear lest these chronometers might become erratic or stop altogether, now they carry portable wireless sets with dull-emitter valves and dry batteries and get the correct time at intervals throughout the day from the principal American and European high-power wireless stations.

The Silent Continent.

Wireless has also been employed with success in recent years by the members of International Boundary Commissions, notably those engaged in Anglo-Egyptian Sudan and Equatorial Africa. The French surveyors are believed to have used the wireless method of securing correct time along the whole 1,200 miles of their survey.

As with land surveys, so with the more romantic work of maritime exploration. Every few months some sturdy little vessel sets out for hazardous work in the polar regions. For one of these to leave its home port without wireless equipment is the exception rather than the rule, despite the fact that the work of installation on a small boat relying largely on sails is usually one of difficulty. Not only can such vessels get their bearings at the usual hours for time signals, but they are able to follow the course of events in various parts of the world. I have talked with men who have lived for months amidst the appalling silence of the Antarctic continent, who have been isolated on Spitzbergen and on the wind-swept pastures of the Falklands, and they have each referred to the wireless news bulletins of the world's high-powered stations as the only thing worth living for.

For Lonely Islanders.

How many readers of *The Radio Times* have visited the Faroe Islands, that group of islands lying well north of the Orkneys and Shetlands and about half-way between John o' Groats and Iceland? How many could give off-hand the language of their inhabitants, now numbering something approaching twenty thousand? Yet there reached us through the kind offices of an Aberdonian a few days ago a copy of the principal paper in those islands, printed in Danish, in which considerable space was devoted to an article by a local wireless enthusiast on "How to get Chelmsford." Chelmsford, I can well imagine, represents more to-day to many a Faroe Islander than any other town in the British Isles.

Programmes for All!

(Continued from previous page.)

from the London studio, it may broadcast the most important service or address given at one of the provincial stations.

From the experience gained during the first three months, when three contrasted programmes will be broadcast weekly, it is hoped to secure sufficient facts to decide whether or not there should be a further elaboration of this scheme.

This will depend, however, not merely on the success attending the technical and programme developments, but upon the added support given to British broadcasting; for these additional programmes will entail very heavy costs, and the existing resources of the Company is only just sufficient to meet the present demands. We hope, therefore, that existing listeners will stimulate an interest in broadcasting in others, who, at the present moment, hold aloof; and, furthermore, that those who may be enjoying our programmes whilst indifferent to the financial side of the matter, will take out their licences forthwith.

It is felt that in adopting, even to a limited extent, the principle of alternative programmes, the way is paved not merely for providing classes of entertainment which will please all tastes, but also for giving in each separate transmission something that will, perhaps, be better defined and more artistic in general make-up than has been possible hitherto.

There are some points in connection with the high-powered station on the technical side which the public should appreciate. We cannot do better than indicate the contents of a letter received from one who lives in the north of Scotland. The writer pointed out, in the first place, that, when Chelmsford started, he found that London came through just as well, but that it was quite hopeless for his purpose, as it was so very badly jammed by mush, sparks, atmospherics, and so on. On readjusting his set, however, to meet the conditions of 1,800 metre reception, he found that there was no comparison, either in signal strength or in purity, between "5XX" and "2LO," and "5XX" is now his favourite for all broadcasting. This experience is confirmed in many other quarters.

We do not pretend that technical perfection has yet been reached, for the Chelmsford Station is providing in a few isolated localities problems connected with fading and "night effects." In the West Country, for instance, there are complaints of distortion, but these may disappear with increased experience in reception on the higher wave-length.

We would also warn crystal users now enjoying the Chelmsford programmes that when "5XX" is moved to its new site in the vicinity of Daventry there is bound to be a difference in signal strength; many now living west of Chelmsford will notice an increase in strength, and others in the Eastern Counties a diminution in strength, which may be more than compensated for by the use of one valve.

There will be no actual change in the power of "5XX" on its removal, but some gain in efficiency is expected by the employment of a better aerial and a more reliable system.

Until the Chelmsford Station is moved to Daventry the transmissions should still be regarded as experimental, for the gear is still of an experimental character; but, as the breakdowns are only in the nature of one per cent. of the transmitting time, we feel justified in continuing the service from the temporary quarters.

Official News and Views. GOSSIP ABOUT BROADCASTING.

London's Chamber Music Programme.

THE London programme will be devoted to Chamber Music on Wednesday, December 3rd. The Ladies' String Quartet will give a group of three Idylls by Frank Bridge, one of the best modern English composers, who is particularly successful in his chamber music works. Mr. Bridge is an accomplished viola player, and, in fact, performs upon almost every instrument of the orchestra.

The Quartet will also accompany Mr. Norman Netley, a baritone who has by his recital work built up a big reputation in London musical circles.

Mr. Evelyn Howard Jones will give Beethoven's Sonata, Appassionata, Op. 57, in F Minor. This is, next to the Moonlight Sonata, perhaps the most popular of Beethoven's Sonatas. This transmission should be of special interest to teachers and students.

Aberdeen's Scandinavian Night.

The Aberdeen Station is holding a Scandinavian night during the evening of December 2nd. There are many listeners in Scandinavia who receive the Aberdeen Station better than any other B.B.C. station. It is hoped to broadcast the announcements in Norwegian.

Music and the Submarine Cable.

Music is not being relayed to the Belfast Station at present because of the difficulties inherent in transmission over the submarine cable. A commercial cable is designed primarily to carry speech, and many of the higher frequencies of the voice are attenuated or lost in transmission over the cable. This is not serious where speech is concerned, because many of the frequencies can be cut out of the voice while still leaving it intelligible, if not natural. It is different with music, where every frequency, from the highest harmonics of the violin to the lowest note of the 'cello, should be present in the transmission.

Old Pantomime Favourites.

The Bournemouth Station, which has led the way with "Memories Nights," is specialising on Tuesday, December 9th, with "Old Pantomime Favourites." Charles Coburn, Ray Wallace, and Jay Kaye will revive happy memories of the "Eighties and Nineties" to those listeners old enough to recall the "good old days."

Poetry and Music.

A programme of "Poetry and Music" will be broadcast from Bournemouth on Friday, December 12th. Mr. S. Fowler Wright and Miss Madge Whitehead will be heard in excerpts from Byron's "Manfred," Moore's "Lallah Rookh," and Tennyson's "In Memoriam." The Wireless Orchestra will demonstrate "Poetical Suggestion," through the medium of Schumann's Incidental Music to "Manfred," Sterndale Bennett's "Paradise and the Peri," and Sullivan's overture "In Memoriam."

Mozart at Belfast.

The Belfast Station will broadcast a short Mozart programme on Tuesday, December 2nd. Miss Minnie Hanna will sing some of the best-known Arias from the Operas. The Orchestral work will include the Concerto in A minor for clarinet and orchestra, with Mr. E. J. Harris in the solo part, and the amusing Minuet in D for strings and two horns.

Broadcasting Handel's "Messiah."

The Belfast Philharmonic Society's third concert this season will be relayed from the Ulster Hall on Friday, December 12th. Handel's *Messiah* will be performed with a distinguished quartet of soloists.

Grand Operas in Miniature.

An abridged version of *Rigoletto*, Verdi's grand opera, is being broadcast on December 5th, from the Aberdeen Station. The conductor will be Mr. Arthur Collingwood, F.R.C.O. Grand Operas in miniature are very popular with Northern listeners, and one will be broadcast every fortnight.

An Old-Fashioned Night.

At the Edinburgh Station the chief feature of next week will be the programme to be broadcast on Friday, December 12th. It will be an "Old-Fashioned Night," and songs and recitations reminiscent of the Early Victorian period will be broadcast. The same evening an amusing Scottish comedy by a local author, Miss Ella Boswell, will be performed.

Famous Russian Composers.

A Russian Composers' Evening will be given at the Dundee Station on December 12th. The Hartley Quartet will give selections from the works of Tchaikovsky, Rubinstein, and other Russians. The suite, Spanish Dances, by Moszkowsky, will also be performed. Mr. William Hartley, solo violin, will play selections from Rimsky-Korsakov (arranged by Kreisler), and Wieniawsky. Mr. Fletcher Parry's repertoire will include "The Dreary Steppe" (Grieg), and "Song of Mephistopheles" (Rimsky-Korsakov). The songs to be sung by Miss Greta Don will include "Berevino" (Arensky) and "Parting" (Ippolitov-Ivanov).

International Symphony Concerts.



The orchestra—numbering about one hundred players—at the first of the new series of International Symphony Concerts, organised by the B.B.C., will be conducted by M. Pierre Monteux, one of the most distinguished of French musicians. He has filled many important posts since 1911, when he was engaged as conductor of the Russian Ballet. In this capacity he conducted in London, Paris, Berlin, Vienna and Budapest until the outbreak of war. During the war he served as a private soldier, but in 1919 he was released to go to America as conductor of the Russian Ballet. He then toured America, and after a period as conductor at the Metropolitan Opera House, New York, he was appointed conductor of the Boston Symphony Orchestra, a position which he held from 1919 until the end of last season.

Celebrated Conductors.

The First Symphony Concert of this series will be given at the Royal Opera House, Covent Garden, on December 10th. It will be made additionally interesting by the appearance of Miss Beatrice Harrison, the famous 'cello. Seats for this concert can now be booked at the box office of the Opera House.

The second of the series will be given on January 15th, when the conductor will be the famous Swiss, Mr. Ernest Ensermet, and the soloist will be Mr. Albert Sammons.

Mr. Bruno Walter, who will conduct the third concert of the series, on February 12th, and who made such a success of the last German Opera Season at Covent Garden, is one of the most distinguished of German conductors.

Two Important Talks.

Professor H. J. C. Grierson, LL.D., Litt D., Professor of English Literature at the University of Edinburgh, will give a talk on "The First Novel," on Thursday, December 11th. This will be S.B. from the Edinburgh Station to Glasgow and Aberdeen. On Friday, December 12th, at 8 p.m., Miss Rosaline Mason will give a talk on "Old Edinburgh," on which she is well qualified to speak about, for she is the authoress of several books on the subject.

For Lovers of Dickens.

Sir Alfred Robbina, the distinguished journalist, will give a lecture on "Dickens's America and To-Day," under the auspices of the English Speaking Union, at 8 p.m. on December 10th, at the London Station.

For French Students.

Mons. E. M. Stephan will read "La Mort du Loup," by Alfred de Vigny, at the London Station on December 11th.



Voice of Uncle: "Hallo, Chick!"
Irritated Listener: "Confound it! Another talk on poultry!"

Drawn by Noel Thomas.

The Songs I Like to Sing.

By Gladys Palmer, the Contralto.



MISS GLADYS PALMER.

THE "shut-in" feeling appeals to me. I sometimes think I sing my best when I am practising at home, when no one is listening, or, if anyone is, it may be only to wish I would give my voice a long rest! Similarly, anyone who has been on the stage knows that the "glare of the footlights" is just as effectual in shutting your audience from sight as the blaze of an approaching car's headlights in concealing the road behind them.

To me, at least, this "shut-in" feeling on the stage is very helpful. I think that anything that tends to break an artistic illusion is to be deprecated. That is why I dislike "calls," after the curtain has once come down—at least, between scenes and acts. It is a deliberate attempt to undo what one has been striving, heart and soul, to do—namely, so to present a part that it is as real to an audience as it is to oneself, and that can only come to pass by utter forgetfulness of self.

To say that this never happens on the public platform is only to speak a dreadful truth. Nobody unaided to appearances of this kind can realize the horror of that terrible moment, lag as years, when one has to walk on to a platform, face one's audience, and realize the fact that a sound of some sort has to be made to keep that crowd quiet. It is one of those indescribable moments which belong to the region of nightmare, and one realizes only too well the presence of that painful self-consciousness which often mars the performance of the most experienced artists.

The Happiness of Broadcasting.

Thus it follows, quite logically, that in broadcasting effort is stimulated by the absence of these sensations. I think that is why cinema acting is often so extraordinarily good. The actors have no audience visible, and they also know that the inexorable camera is recording their slightest action, their briefest glance, their least change of countenance or position.

Broadcasting has the same effect on me. I feel I have to put both tone and personality into my singing. I dare leave nothing to chance. That microphone will record blemishes as faithfully as excellences. This keeps one up to a high pitch of artistic endeavour. But the real result of all this is that I forget that there is anyone listening to me outside the studio, and this loss of self-consciousness is, for me at least, all to the good.

Therefore, I can say truthfully that broadcasting is, to me, almost the happiest method of expressing my feelings in song, always excepting opera, and there one is always somebody else, so it doesn't matter.

Dressing the Part.

My happiest evenings in the B.B.C. studio are those on which a "production" is broadcast, and, if I am to choose a favourite "radio song," I think I must just stop at that. That is where my preference falls. For one thing, I find it highly diverting. It is fun—and when your work is fun, it has reached its highest development. You just love it, and, loving it, you make the very best of it.

It is so much easier to hold a character when there is dialogue to help it. Even when one is not actually on the stage, the feeling of being

on the stage puts a great deal of colour into one's voice, and an occasional gesture at once gets a different inflection. I believe, too, that it would be extraordinarily helpful if one could dress one's part.

For the rest, I can only say that a broad, sustained song of a dramatic type is certainly easier to "get over" than a quick staccato one, the words, of course, being the difficulty. They are so very important in broadcasting.

I like singing all the classics, English, French, Italian, German, and I have an equal fondness for modern English songs, Quilter, Bridge, Ireland, and the rest of a noble and talented band. Luckily, I have a wide compass, so am equally happy singing light comedy, or "grand" opera and oratorios, in either mezzo or contralto voices.

Finally, it is a real happiness to think and feel that joy can be broadcast, that I—singing, as it were, to myself—can sing at the same time to uncounted multitudes, that by my feeble voice I can reach the bedside of some sufferer perhaps hundreds of miles away, and bring a ray of sunshine into some darkened life. Art for art's sake may be very well, but art for love's sake is better.

(Miss Palmer is singing in "The Rose of Persia" on Thursday.)

From All Stations.

Facts and Figures About Radio.

THE Hull Corporation requires all owners of serials crossing public roads to pay a fee of a shilling a year.

An airship, specially constructed for voyages to India and Australia, is shortly to be built in this country. The airship, which will be the biggest in the world, is to have two dance halls in which passengers will be able to dance to the strains of music provided by radio loud-speakers.

A fund to provide every needy blind person in America with a receiving set has been opened in the U.S. The appeal was inaugurated by a broadcast message from Miss Helen Keller, who is herself blind and deaf. Miss Keller was once dumb but taught herself to speak. She can hear radio music by touching the diaphragm of the receiver.

Wireless signals sent out from the New York Radio Exhibition circled the world eastward in five seconds, and westward in six seconds. A cable takes about eighty seconds to go round the world.

A miniature sensation was caused during the recent American elections by a radio singer who concluded her song with the words: "Good night, and don't forget to vote for Davis." She was reported to the authorities, who are as anxious to keep broadcasting impartial as the authorities in Britain. The singer was threatened with exclusion from all future engagements. Finally she apologized and the matter dropped.

The Pittsburgh broadcasting station, KDKA, has been heard within eleven degrees of the North Pole, by the Canadian Government ship, *Arctic*.

The recent talk on ancient war models led to a listener successfully claiming from the War Office two medals awarded to two of his uncles who fought in the Crimean War. They had been unclaimed for seventy years.

Chelmsford is being picked up in India on a home-made three valve set. The owner of the set, an English engineer living in Bombay, states that he receives the English programmes daily.

"The Rose of Persia"

Plot of an Eastern Opera.

"The Rose of Persia" will be relayed from London on Thursday, December 4th, and S.B. to Bournemouth, Cardiff, Newcastle, and Aberdeen.

HASSAN is sitting in his garden. His wives surround him, singing. (Chorus: HASSAN sings the song of his five-and-twenty wives ("I'm Abdul Hassan"). He murders them and finds a twenty-sixth, who is given a month's notice in lieu of divorce.

ABDULLAH the Priest comes to remonstrate with Hassan for his slackness in religious matters. (Song: "When Islam First Arose.")

YUSSUF, the Story-Teller, has met a beautiful girl, whom he takes to be a dancing girl, in the street with three others. (It is, in fact, the Sultana herself with three of her women.)

ABDULLAH enters with police. While he is reading the royal authority for his intrusion, HASSAN has bribed the officers. The Sultana and the three slaves are stealthily leaving the house with YUSSUF just as ABDULLAH finishes his Proclamation, and he orders their arrest. HEART'S DESIRE declares it is the Sultana he has arrested.

HEART'S DESIRE slips away to see if the coast is clear for getting back to the palace. HASSAN offers them "bhang," which he recommends as more potent than opium. HEART'S DESIRE has met the SULTAN and his officials on the way hither. They are dressed as dervishes.

HASSAN enters intoxicated with the drug. He declares himself to be the Sultan and that the SULTANA is in his house. The SULTAN tells them to accept the story and bring HASSAN in state to the palace. The officials have returned in their Court costumes, and HASSAN is lifted into the royal litter.

HEART'S DESIRE is discovered in the Audience Hall of the Sultan's palace. (Song: "Oh, What is Love?") The Court assembles (Chorus) and the Sultan makes his ceremonial entry. It is explained to ROSE-IN-BLOOM that another lady is calling herself Sultana, as part of a joke the Sultan is playing on HASSAN.

HASSAN is brought in still unconscious; he begins to wake up. When the Divan is opened, the first suppliant is YUSSUF. He asks for the royal slave, HEART'S DESIRE, as his wife. Whilst on the subject of wives, HASSAN learns that he has 571 in the harem. ABDULLAH enters and states that ROSE-IN-BLOOM visited HASSAN'S house the previous night. The SULTAN furiously orders HASSAN'S death and the SULTANA'S marriage to YUSSUF, instead of the slave's.

ROSE-IN-BLOOM enters for the ceremony of her divorce and disgrace. She hears, however, that HASSAN'S wife is claiming to be Sultana.

The EXECUTIONER arrives to make the Proclamation to those concerned. DANCING SUNBEAM, the "Sultana," is pronounced divorced, disgraced, and married to YUSSUF. (Recit. and Quartet: "What Does It Mean?")

People rush in to stop the wedding, the Sultan having relented. HEART'S DESIRE confesses it was she who was at HASSAN'S house wearing her mistress's signet. ABDULLAH is condemned. HASSAN and HEART'S DESIRE are not pardoned until ROSE-IN-BLOOM pleads for a postponement until the slave has finished telling her a story she has begun. HASSAN says that he is the real author; that it was for the purpose of telling it to the slave that she visited his house, so he must be spared if the tale is to continue. It only remains for somebody to think of one. It is YUSSUF who saves the situation (Septet and Chorus: Song and Finale) and straightens out the tangle.

"From My Window."

Philemon Looks at Life.

IT has been the privilege of thousands of listeners to share the view from Philemon's window, that window whence he looks out on life. Through his eyes we have learnt something of the philosophy that stands aloof from the hurly-burly of modern existence. We should have a prominent place on our bookshelves for "From My Window," the collection of Philemon's essays which Rodder and Stoughton have just published.

"There are so many useless things in the world," says Philemon. "The orange and scarlet sunset; the poppies scattered among the corn; the butterflies flitting in the sunbeam—all these bear but the remotest relation, if any relation at all, to Utility or Purpose, but this occurs to me—they are all beautiful.

"Many useful things are beautiful, like some chairs, or like the pillars that support an arch; and if a useful thing is ugly, like a vacuum-cleaner or a dustbin, it is not condemned therefore. But a useless thing is only justified if it is beautiful; and if it is that, it needs no other justification. There is no discredit in being useless in the world, providing that one is useless beautifully."

In another place Philemon writes of kindness. "There is, in truth, an art of being kind; and it requires practice. Generous impulses are more or less common to us all; but how few are able to render a kind action with grace and simplicity! An act of kindness rendered at the right moment may be of quite extraordinary virtue, but at any other than the right moment it may be simply tedious; done privately, it may be of inestimable comfort and relief, but, with witnesses, a gratuitous offence; to one person it may be beyond repayment, to another beyond pardon."

Of fear, Philemon says: "Everybody is afraid of something or other—of the surrounding dark, of the unknown, of what may be round the corner or behind the veil. We are not all affrighted of the same thing. As a rule, we do not easily confess to being afraid, for somehow or other we feel that it ill becomes a man. If we can shame ourselves, to laugh ourselves out of our fears, so much the better; for fear in its extreme form is paralyzing; and in its milder forms of small worries and anxieties it is a serious drain upon our energies. It lessens the power and lowers the dignity of a man. And, really, when one comes to think of it, a large proportion of our common fears are imaginary. You can afford to laugh at them."

In the essay entitled, "The Living Part," Philomson tells us that "the past may always be redeemed. You need not handicap yourself with it. You need not dread it, as a record which may one day be disclosed to your discomfort. A sculptor who should make an unlucky slip with his chisel upon the marble does not on that account deem his work a failure; but he reconstructs his work so that the very blunder may find its place in the finished result. The result is not the same as it would have been apart from the slip; but there is even a chance that it may be better! Your life is in your hand now—the whole of it, from the very beginning—to make of it what you will."

"From My Window" (which is published at three shillings and sixpence) is one of the volumes of the Broadcast Library, of which Mr. J. C. W. Reith is General Editor.

A Lecturer Who Wasn't!

Told by a Wireless Club Secretary.

"I SHOULD think," remarked the new member, respectfully, "that the necessary qualifications for a post such as yours are not easy to acquire."

The Club Secretary beamed on the speaker. "I thought when you joined us, laddie," he said, genially, "that you were going to be a credit to the club. My suspicions are confirmed. Now listen to this: when you possess vision, foresight, resourcefulness, courage, and faith, and when to these qualities you can add wide technical knowledge, great physical endurance, and remarkable fluency of speech, then, and not until then, may you aspire, with some degree of confidence, to the thankless, harassing, nerve-racking job of secretary to a wireless club."

The new member gazed at the secretary reverently. "You must be able to cope with any emergency," he ventured.

"You are right there," replied the secretary. "Just as an example, I may, perhaps, spare the time to tell you a story. It concerns the activi-

time to say you sorry. It concerns the interests of a rival club, and shows how the speaker dealt our rivals a shrewd blow from which, indeed, they never recovered.

The secretary removed his pince-nez and polished the lenses reflectively. "It

was in the very early days of the Club," he said, "and we were only a few enthusiasts struggling along under great difficulties, trying to increase our membership. Things were just beginning to look up a bit, when a rival club started in the neighbourhood. To make the position still more embarrassing, our rivals' clubroom was in the same building as ours, on a lower floor.

"You must understand that good lecturers were scarce in those days and commanded high fees. It was a matter for surprise, therefore, when our rivals announced, in the local newspaper, that they had secured the services of a well-known expert to deliver a most interesting lecture on wireless telephony, followed by a demonstration on the loud speaker. All were welcome, and it was hoped that a large number would be encouraged to join the club."

"Pardon me for interrupting you," said the new member, "but what were they able to pick up for the loud speaker? There was no broadcasting in those days, was there?"

"Write, my boy," replied the secretary.
"Write! One crowded half-hour of glorious
broadcasting every Tuesday evening at eight!
Call sign: '2MT'; wave-length, 490 meters.

A high-power transmitting station is to be installed at the Suresse Générale (the French Scotland Yard) in Paris, and receiving stations at all the important police stations throughout the country. It is hoped by this means to broadcast descriptions of criminals with great rapidity.

LOUN speakers are being installed in each cell of the State Prison at Moundville, in America, for the benefit of the prisoners.

The Liverpool Bench recently granted several applications for the installation of receiving sets in public houses.

At a meeting of the Exeter Rotary Club recently it was complained that the city's frame disturbed the reception of broadcasting.

The operator at Whittle must have possessed qualities similar to those I specified just now. However, we must not linger; time presses. The evening arrived, our rivals' clubroom was crowded, and the expert on entering the room was greeted with loud applause. His noble bald head and long white whiskers inspired confidence, and

the audience settled down to a treat. They got it! For one solid hour the venerable expert spoke in language so technical that nobody present could make rhyme or reason of it. Still, he was an expert, so they applauded politely at intervals; but when at last he announced that he would now tune in Writtle, the welkin rang!

"The old fellow fiddled about with the apparatus for five minutes or so, and nothing happened. Another five minutes, and still the loud speaker was dumb. The officers of the club could not discover what was wrong, and were looking dreadfully worried, when suddenly from the floor above came the sound of very loud piano-playing, followed by a powerful voice announcing: 'W-z-z-z-z-z-z-z-z calling!'

"There was a stampede to the door and a mellow, cultivated voice was heard inviting the crowd to step upstairs and hear the loud speaker. Laddie," said the secretary, "the membership of our club was quadrupled that night."

"Great Scott!" exclaimed the new member.
"What had happened?"

The secretary wagged his forefingers impressively. "The lecturer was an old actor friend of mine who had written to the secretary of the rival club, at my dictation, offering to give a free lecture. The boob-head of a secretary took it for granted that he was an expert, and cordially accepted the offer. The lecture consisted of about six pages of a highly technical electrical review. He paid a visit to Clarkson before turning up at the club.

"I regret to say that some malicious person had cut the lead-in of the rival club's serial. The mellow, cultivated voice was, of course, my own; and the literature given away consisted of pamphlets describing our club's activities. It is only necessary to add that our rivals abandoned shortly after."



The old fellow fiddled about
with the apparatus.



The new member greeted the Secretary reverently.

FURTHER broadcasting tests are taking place in the Alps this winter. It is hoped to gather certain facts about radio in high altitudes. Transmissions will take place from a point amidst the snows of the Jungfrau. British broadcasting will be received and relayed over telegraph lines to various centres, such as Geneva and Zurich.

BROADCASTING in America began in 1912.

Every Monday and Wednesday, a short talk on fish is given from the Hamburg broadcasting station. This is under the auspices of the Fishery Authorities, who hope to promote the sales of fish by describing the catch of the day, the retail prices and details of the life stories of various fish. The talk is already said to have promoted trade.

Pieces in the Programmes.

A Weekly Feature Conducted by Percy A. Scholes.

A LIVERPOOL COMPOSERS' NIGHT. (LIVERPOOL STATION, FRIDAY.)

SUTTON'S CONCERT OVERTURE.

THE construction of this piece is clear and Mozartian, and is easily grasped.

There is a brief Introduction, then two Main Tunes are announced, "developed," and, finally, "recapitulated."

The piece ends with a "Coda," or short closing section, founded upon the Introduction.

MILLER'S PIANO CONCERTO.

This piece is written in three Movements. The last two, which are continuous, have been played at the Royal College of Music, London.

I.

(Moderately Quick.) The First Movement begins with soft chords on the BRASS, a drum-roll, and a "CALL," softly given out by TRUMPETS.

Then the PIANO is heard, in a little group of notes which is afterwards found to be the nucleus of the First Main Tune. STRINGS immediately enter, and gradually a climax is built up, at the summit of which—

The FIRST MAIN TUNE is fully stated by STRINGS and PIANO. For a time it is developed, then the CALL is heard, succeeded by loud chords in the FULL ORCHESTRA.

This quickly subsides, then a little phrase, later found to be of some importance, is heard in UPPER WOODWIND and SOLO STRINGS.

This leads to the SECOND MAIN TUNE (Rather Slow), played mainly as a PIANO SOLO. It suggests a folk-song.

The rest of this Movement consists of elaborate treatment of this material, the Call being especially prominent.

II.—AIR.

(Moving Steadily.) Note that in this Movement the STRINGS are muted throughout.

For a while a little phrase is quietly discussed in dialogue between OBOE and CLARINET, with a soft accompaniment of STRINGS.

After a pause, the PIANO enters with a reiterated, harp-like figure. With this the AIR is played by a Solo Horn, STRINGS sustaining.

The rest needs no description.

Shortly after a climax, a soft, low chord on VIOLA and CELLOS leads straight into—

III.

(Quick.) The Finale is very straightforward.

STRING BASSES start a pizzicato (plucked) octave figure, over which FLUTE and CLARINET play the dance-like FIRST MAIN TUNE of the Movement. This persists for a long time.

With a slowing-down (to Rather slow; Tranquillo), the song-like SECOND MAIN TUNE is given out, divided between STRINGS and high PIANO octaves (Woodwind occasionally joining in).

Starting with SOLO PIANO a long development of the First Main Tune follows, and is in turn followed by the Recapitulation of both Tunes.

In a brief, but brilliant Coda, the "CALL" from the First Movement is heard again, bringing the work to an end.

ROMANCE, BY GORDON STUTELY.

This is a short romantic piece for Violin and Orchestra and will be readily followed without description. It is dedicated to the late A. E. Rodewald, well known in Liverpool for his admirable musical activities there.

MORRISON'S "THE JOY OF LIFE."

This is a three-movement piece.

I.—SYMPHONIC DANCE.

Note the three Main Tunes out of which the music is constructed. The FIRST MAIN

TUNE is that with which the piece opens. The SECOND is the CLARINET melody, given with a soft accompaniment of STRINGS and HORN. The THIRD is the OBOE melody, which enters to a very soft accompaniment of strings.

II.—INTERMEZZO.

There are three distinct sections.

The FIRST SECTION opens with a Tune on CLARINETS and VIOLINS.

The SECOND SECTION opens with a broad singing tune (a little quicker) in STRINGS.

The THIRD SECTION is practically a repetition of the First, but a touch of the Second comes into it also.

III.—FINALE.

The piece grows out of two Main Tunes:—

After a bar or two of Introduction, the FIRST MAIN TUNE enters vigorously in the FULL ORCHESTRA.

The SECOND MAIN TUNE will be easily recognized when it appears, as it is given to BRASS alone. Almost immediately the First Main Tune (in VIOLAS and CLARINETS) joins in.

If the two Main Tunes are grasped, what is made out of them will be pretty clearly followed.

NICHOLL'S "THE OPEN ROAD."

This Suite for Orchestra is prefaced with the following quotation from Walt Whitman:—

Afoot and light-hearted I take to the open road.

Healthy, free, the world before me.

The long brown path before me leading wherever I choose.

There are three distinct and detached Movements.

I.—THE JOY OF THE OPEN ROAD.

(Moderately quick, joyously.) The FIRST MAIN TUNE starts immediately. It is treated at some length, always fairly loudly, until, with a softer passage, the rhythm of the Second Main Tune creeps in, in an anticipatory way, in the upper Woodwind.

After a pause the SECOND MAIN TUNE itself is fully announced by the STRINGS.

It is eventually succeeded by the Development, and finally, Recapitulation of the Main Tunes, in a somewhat free treatment.

II.—A WATER SCENE.

(Rhythmic, graceful. Not too slow.) In this Movement the STRINGS are muted. It is in a three-section form ("a-b-a"). The FIRST SECTION is chiefly made out of the Tune with which CLARINETS open.

The quicker MIDDLE SECTION (unmarked in by soft Woodwind chords) is entirely built on a smooth Tune announced by VIOLAS.

Eventually the FIRST SECTION is repeated, slightly condensed.

III.—RUSTIC REVELS.

(With mirthful animation.) This is really a country dance. It is, like the last Movement, in a three-section form. The FIRST SECTION is made out of two phrases—one, in little jerky fragments played by VIOLINS, the other, more continuous and played by VIOLAS. These are reiterated and developed at great length.

The First Section ends with a loud climax, followed by a pause.

The MIDDLE SECTION (Rather slowly. Plaintively) opens with a long, high note on the HARMON. Then very slightly accompanied by a few strings, the OBOE plays the chief Tune of the Section.

The FIRST SECTION is then repeated, considerably modified, but there is no fresh material introduced, and the Movement proceeds gaily to its end.

(I much regret that there is no space for particulars of the Composers, but hope that these may be briefly announced on the night.)

Listeners' Letters.

[All letters to the Editor to be acknowledged must bear the name and address of the sender. Anonymous contributions are not considered.]

Crystal Sets and the New High-Power Station.

DEAR SIR,—In Suffolk the people are hesitating to buy wireless crystal sets because of the removal or closing down of the Chelmsford high-power station. The majority of them cannot afford valve sets, and it would relieve them to know that a crystal set will be of use when Chelmsford is shut down.

We are mostly farm labourers, and have paid our licence, so we would be obliged if you would let us know whether we are to lose this new kind of education and pleasure because of lack of funds.

Yours, etc.,

Kirton, near Ipswich.

H. D. F.

[The High-Power Station should still be audible on a crystal set in Suffolk after its removal to Northamptonshire.]

A Word to Speakers.

DEAR SIR,—May I suggest that all speakers should constantly be warned to speak up all the time and keep close to the microphone, otherwise they will not be heard easily. Many clergy and lecturers with high-pitched voices do not put sufficient power into their voices, and may I be forgiven if I whisper that sometimes our excellent announcers seem to be far away or, perhaps, slightly weary of repeating bulletins!

Many of my friends and myself have noticed how far away speakers' voices seem to be of late.

Yours, etc.,

London, S.W.

C. A. J. P.

[The impression we gain from this letter is that the writer's set or aerial is inefficient; his experience is so much at variance with that of the majority of our correspondents.]

Balance in Broadcasting.

DEAR SIR,—It seems to me that improvement is wanted in the broadcasting of solo vocalists.

During a song it is very difficult to reach a good balance between singer and accompanist (this does not apply to orchestral accompaniment), the piano sounding almost inaudible, which, presumably, is due to the fact that the vocalist sings more or less directly into the microphone, while the piano stands some distance away.

Yours, etc.,

Norwich.

G. H. J. T.

[We imagine that there are other opinions on this matter. Actually vocalists when broadcasting are from 12ft. to 15ft. from the microphone, and the piano 25ft.]

A Listeners' Ballot?

DEAR SIR,—As there is no doubt that the B.B.C. honestly desire to cater for all tastes, and that their catering should bear a relation to the bona-fide desire of the majority, I suggest that a serious attempt should be made to ascertain by a reliable test, in the form of a ballot, exactly the type of programme listeners desire.

My suggestion is that a form of ballot should be printed in *The Radio Times* on a notified date (such date to be announced from all B.B.C. stations), and that the result of such ballot should be used as the basis for the preparation of all the B.B.C. programmes for the ensuing year.

Yours, etc.,

Bournemouth.

R. A. N.

[Whilst the above suggestion is appreciated, the ordinary heavy correspondence of the B.B.C. serves the purpose indicated. If otherwise, listeners themselves can remedy the position by writing still further regarding their tastes and requirements.]

(Continued on the facing page.)

Listeners' Letters

(Continued from the previous page.)

A Plea for More Classical Music.

DEAR SIR,—While I realize that I have no special claim to dictate the broadcast programmes, I should like to make one or two suggestions.

First, on the general question of classics versus the rest, do you not think that a rather larger proportion of the former would be, at least, tolerated? In addition to the usual standard works, more lieder in German (some of the translations are distressing), and more Purcell, Byrd, etc., would be appreciated.

Secondly, if it proves possible, as has been suggested, to run "2LO" in duplicate, I hope the two stations may give respectively a high-brow and a low-brow programme. This would take away a very large number of grievances, and would be in line with the policy of other organizers of musical programmes, who do not generally mix their composers.

Thirdly, if it is necessary to dilute the chamber-music evening, which is, to many of us, the best in the week, perhaps Mr. Scholes could suggest some diluent which would be acceptable both to low- and to high-brows, and so save the excessive wear which the rapid extraction of the telephone plug causes to the attached flex.

Yours, etc.,

Teddington.

E. G. J. E.

Belfast Mixed With Glasgow.

DEAR SIR,—I am the owner of a crystal set, and being situated in South Ayrshire, I am absolutely dependent on the Glasgow Station. I was getting fairly good results until the Belfast Station opened; but since then, I get both Glasgow and Belfast together and everything is in such a mix up that there is no pleasure in putting on the 'phones.

I have tried everything I can think of, but up to the present, I have been unable to cut out one of the stations. Could not something be done to change the wave-lengths?

I am one of a good many in this district whose position only allows the humble crystal, and I think it is up to the B.B.C. to make an effort to have the present state of things altered.

Yours, etc.,

Ayrshire.

"Live Wire."

[There is undoubtedly a difficulty in separating Glasgow and Belfast, and application has already been made for permission to increase the wave-length of Belfast. Pending an answer to this, however, 15 metres is a sufficient difference to enable a really selective set to cut out one station in favour of another.]

Long Distances Chalmersford Results.

DEAR SIR,—I am a wireless operator, and an experimenter, and perhaps you will be interested in the results I obtained with a two valve set, being H.F. and detector.

I have been testing especially on the new Chalmersford Station, and I must say, at a long distance, 5XX is much more powerful than the French stations, "Radiola" on 1,780 m. and "Eiffel Tower" on 2,600 m. We made the voyage from Amsterdam to Archangel, and when leaving Amsterdam I received Chalmersford on a small loud speaker.

This lasted until we reached the Danish coast, and after that the 'phone strength was very good.

When entering the Norwegian fjords, I lost Chalmersford completely, but as soon as we passed the North Cape, it came in again with fair 'phone strength. In the Arctic, however, the strength decreased very quickly, and in the White Sea I could not get it at all.

Further, I never heard the hum of the generator of 5XX.

Yours, etc.,

G. F. V.

PEOPLE IN THE PROGRAMMES.

Radio to the Rescue.



Mrs. KENDAL.

MRS. KENDAL once said that, to succeed on the stage, a woman must have the epidermis of a rhinoceros, the strength of a man, and the feelings of a graven image. She might have added that to retire from the stage requires the pluck of a V.C., the wisdom of a Solon and the resolution of an arctic explorer.

Mrs. Kendal succeeded, Mrs. Kendal retired, leaving the older generation to hug its memories and the younger generation to sigh, "If only!" But now the radio has come to the rescue. On Wednesday, December 3rd, the G.O.L. will take part in the broad-casting of *Granny's Juliet*.

Apparently she is of opinion that, unlike little boys, veteran actresses should be heard, not seen.

The Tree Trio.

ANOTHER famous actress who will be heard in *Granny's Juliet* is Lady Tree, one of the wildest actresses on the stage.

Whether Viola derived her wit from Lady Tree or Sir Herbert has always been a bone of family contention. But clearly both parents may claim a share in one of Viola's most brilliant sallies, when she remarked:

"It takes father far less time to make himself ugly than it takes mother to make herself beautiful."

Daughters will be daughters.

A Singer of Modern Songs.



Miss ASTA DESMOND.

A VOCALIST who is becoming increasingly popular with listeners is Miss Asta Desmond, who is to sing at Cardiff on November 30th. Miss Desmond studied under Mrs. Blanche Marchesi, and made her debut in London in 1916. For some time she was a member of the Royal Carl Rosa Opera Company, as principal contralto, singing the roles of Carmen, Azucena in *Il Trovatore*, and America in *Aida*, etc.

Miss Desmond is especially interested in modern music, and she has given several recitals of the works of present-day composers.

Patients In Pickle.

PUBLICITY is not one of the gods of Sir George Newman. He is concerned with getting on with his job as Chief Medical Officer of the Ministry of Health. On Public Health he will talk morning, noon and night. He will broadcast his views on the subject from London on Friday, December 5th.

It is possible that he knows two good stories. But only one has ever got into print. A doctor told a hard-pressed farmer that his daughter needed toning up.

"Send her," said the doctor, "to the seaside and give her salt-water baths."

The farmer scratched his head. "Deed, doctor," he replied, "in these hard times wud a good stiff pickle at hame no dae?"

Which suggests that if Sir George does know another story, it is probably a good one.

Should We Sing More?

MISS GERTRUDE JOHNSON, who started a tour of all the B.B.C. stations on November 18th, has just returned from Italy, where she was much impressed by the way the Italians go singing snatches of opera through the streets in the quiet of the evening.



Miss GERTRUDE JOHNSON.

In this country, if any body sings in the streets, it is pretty safe to put the sungate down as a mendicant or one who has wined not wisely, but too well. We do not serenade for the pure love of song.

In Italy, they have an expressive and characteristic adjective. When they wish to speak of anything in terms of the highest praise, they exclaim that it is *incantevole*—"unsingable." Over here we say that it is "unspeakably beautiful" or "beyond words."

And there you have the difference between the sober North and the warm, sparkling, emotional, impulsive South.

No Ghost!

THE BISHOP OF WINCHESTER, who will deliver a religious address from Bournemouth on Sunday, November 30th, holds that the old greed and selfishness have resorted themselves since the war, and that the world is in an invalid state. He is a forceful personality.

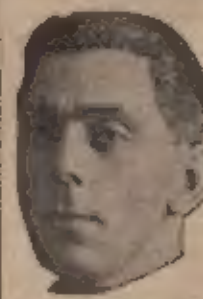
His constitution is amazing. Not long ago he walked over a hundred miles through country lanes and byways to visit outlying districts in his diocese. There are six-foot-six of him. As an old grave-digger in a country church once said: "I don't know whether he's the new bishop or not, but he ain't no ghost."

Miss Shakespeare.

IT would not be far out to call Miss Lillian Baylis the greatest of the Old Victorians. She is one of the few people who have done more for Shakespeare than Shakespeare has done for her. A workman at the Old Vic., pointing to a picture of Shakespeare, once declared that it was "Miss Baylis's old dad!" In a way he was right.

Miss Baylis is to speak on "The Art of Living" from London on Wednesday, December 3rd.

Broadcasters' Who's Who.



Mr. F. E. DOBIE.

F. E. DOBIE, Principal bass, Glasgow Cathedral. Conductor Cambuslang Choral Society, 1918-22. Choir-master John St. F.U. Church, 1922-4. Gold medallist, City Hall, Glasgow, 1922. Broadcasts from Glasgow.

GEORGE A. INNES, Singing master under Aberdeen Education Authority; organist and Choirmaster, Greyfriars

Parish Church. His choir have gained thirty-three first prizes.

MUR MATHESON, Conductor, pianist and composer. Broadcasts from "TSC" on Saturdays in the Children's Corner.

ADELINE SENIOR, Bournemouth Station, Bournemouth Winter Garden favourite. Musical comedy favourite, Comic Opera favourite. Radio favourite. "OYEZ!"

WIRELESS PROGRAMME—SUNDAY (Nov. 30th.)

The letters "S.B." printed in italics in these programmes signify a *Simultaneous Broadcast* from the station mentioned.

2LO LONDON. 365 M.

Wagner—Tchaikovsky.

BEATRICE MIRANDA (Soprano).
CEDRIC BILARIE (Solo Violoncello).
JOSEPH FARRINGTON (Bass Baritone).
CHARLES LEGGETT (Solo Cornet).
THE WIRELESS SYMPHONY ORCHESTRA.

Conducted by DAN GODFREY, Jour.
The Orchestra.

3.0. Overture, "Tannhäuser" Wagner
Waltz from "The Sleeping Beauty" Tchaikovsky

Joseph Farrington with Orchestra.
Wotan's Farewell and the Fire Music ("The Valkyrie") Wagner

3.30. The Orchestra.
"Chanson Triste" Tchaikovsky
"Chant sans Paroles" Wagner

"Dreams" Wagner
(Solo Violin, S. KNEALE KELLEY.)
Cedric Sharps with Orchestra.

Variations on a Theme Rocco for Violoncello and Orchestra. Tchaikovsky

4.0. The Orchestra.
Introduction to Act III, "Lohengrin" Wagner

Cornet Solo.
"None but the Weary Heart" Tchaikovsky

4.35. Beatrice Miranda with Orchestra.
Closing Scene, "The Duke of the Guise" Wagner

The Orchestra.
Five-Four Movement and Scherzo from "Symphonie Pathétique" Tchaikovsky

5.0-5.30.—CHILDREN'S SERVICE: Conducted by the Rev. C. S. WOODWARD.
Relayed from St. Peter's Church, Cranley Gardens. S.B. to all Stations.

St. Andrew's Night.
The London Scottish Choir.

"Strathpey" ("O For a Closer Walk With God") Charles Hutchinson
Miss Marjorie Gullan: 1st Corinthians, Chap. 13.

The Rev. ARCHIBALD FLEMING, D.D., of St. Columba's (Church of Scotland), Pont Street, W.: Address.

The Choir.
"Orlington" ("O God of Bethel") John Campbell (1807-1860)

Miss MARJORIE GULLAN AND HER VERSE-SPEAKING CHOIR.
THE LONDON SCOTTISH CHOIR:

Conductor, J. D. M. HODGE.
Pipers from H.M. SCOTS GUARDS
Under Pipe-Major ANDREW MCINTOSH.
ISOBEL SHAW (Mezzo-Soprano).
S.B. to other Stations.

9.0. The Pipers.
March, "The Seventy-Fourth Farewell to Edinburgh."

Strathpey, "Avonlea Castle."
Reel, "The Rejected Suitor."

March, "The Valley of the Somme."
Miss Marjorie Gullan and her Choir.
Psalms 126, 107 and 136 (the two last with Refrains in Unison).

The London Scottish Choir.
"The March of the Cameron Men" Bantock (11)

"Logie Kirk" K. G. Finlay (25)
"Annie Laurie" J. B. Shaw

9.30. Isobel Shaw.
"Twins Within a Mile o' Edinbro' Toon" arr. Clouston

"John Anderson, My Jo" arr. Moffat
"The News from Moldart" arr. Moffat

Miss Marjorie Gullan and her Choir.
An English Ballad (with Refrains in Unison).

A Scottish Ballad (spoken Antiphonally).
An Irish Ballad (with Refrains in Unison).
The Pipers.

March, "The Stirlingshire Militia."

Strathpey, "Maggie Cameron."
Reel, "Duntroon."

March, "The Heroes of Victoria."
10.0.—TINE SIGNAL FROM GREENWICH.
WEATHER FORECAST and GENERAL NEWS BULLETIN S.B. to all Stations.

Local News.
10.15. The London Scottish Choir.
"Callie Herrin" W. Hamr (34)

"An Erishtay Love-lit" H. S. Robertson (2)
"A Man's a Man for A' That" Mansfield (25)

Isobel Shaw.
"A Highland Lad" arr. Moffat
"My Heart is Sair for Somebody" arr. Michael Dinck (34)

"O, Charlie is My Darling" arr. Moffat
The Pipers.
Lament, "Lord Loyal's Lament"

Lament, "The Flowers of the Forest."
10.40.—Close down.

5IT BIRMINGHAM. 475 M.

3.0-5.0. THE STATION WIND QUINTET:
W. HEARD (Flute).
G. E. CLARKE (Oboe).
S. C. COTTEHILL (Clarinet).
W. A. CLARKE (Bassoon).
W. S. YORKE (French Horn).
NIGEL DALLAWAY (Pianoforte).
ISABEL TRUBS (Soprano).
ERNEST SMITH (Tenor).
Wind Quintet.

Overture to a French Comedy Felix Bala
Sextet and Finale from "Lucia di Lammermoor" Donizetti

Tenor Songs.
Three English Lyrics Wilkinson-Stephenson (1)

(1) "I Dare Not Ask a Kiss."
(2) "Music When Soft Values Die."
(3) "Love's Omnipotence."

Wind Quintet.
Descriptive Piece, "The Sewing Machine" Bray

Soprano Songs.
"A Song of May" Bath
"At Dawning" Cadman (1)

"Where the Chestnuts Bloom" Newton
Wind Quintet.
"Flower Suite" Zomernek

Duets.
"Come to Arcady" German
"Dear Love of Mine" Goring Thonius (1)

Wind Quintet.
"Under the Limes" Massenet
Tenor Songs.

Negro Spirituals.
"Go Down, Moses" arr. Burling
"I Stood on the Ribber of Jordan" arr. Burling

"Oh, Didn't it Rain" arr. Burling
Wind Quintet.
Slavonic Rhapsody Friedman

Soprano Songs.
"She Wandered Down the Mountain Side" Clay (1)

"Spring's Awakening" Sanderson (1)
Wind Quintet.
Praeludium Jernstall

5.0-5.30.—CHILDREN'S SERVICE. S.B. from London.

8.30-9.0.—The Rt. Rev. The Lord Bishop of WINCHESTER. S.B. from Bournemouth.

9.0. **St. Andrew's Day.**
JANET MACFARLANE (Soprano).
HAROLD HOWES (Baritone).
In a Recital of Scotch Songs.

Soprano Songs.
"The Laird o' Cockpen" Nairne
"Charlie is My Darling" Burns

"The Land o' the Leal" Burns
"John Anderson, My Jo" Burns

Baritone Songs.
"Scots Wha Hae W' Wallace Bled" Burns

"The March of the Cameron Men" Mary Campbell
"Annie Laurie" Lady Scott

9.30.—Programme S.B. from London.
10.0.—WEATHER FORECAST and NEWS. S.B. from London.

Local News.
10.15.—Programme S.B. from London.

10.40.—Close down.

6BM BOURNEMOUTH. 385 M.

3.0. BAND OF THE ROYAL ARTILLERY.
LILY CLARK (Contralto).
Relayed from South Parade Pier, Southsea.

3.15. CHARLES J. RICE (Baritone).
"Harlequin" Sanderson (1)
Recit. and Air, "Lord God of Abraham" Mindehausen

3.30. Band.
3.55. FLORENCE WILSON (Soprano).
"Alide With Me" Isdale (1)

"Life's Recompense" Teresa del Riego
Band.
4.5. Florence Wilson.

4.30. "Nearer, My God, to Thee" L. Carey (1)
"Beyond the Dawn" W. Sanderson (1)

4.35. Charles J. Rice.
"The Floral Dance" K. Moss
"The Curfew" Monk Gould

4.45. Band.
5.0-5.30.—CHILDREN'S SERVICE. S.B. from London.

8.30. THE "6BM" CHOIR.
Hymn, "Love Divine, All Loves Excelling" (A. and M. No. 520).

The Rt. Rev. The LORD BISHOP OF WINCHESTER: Religious Address. S.B. to other Stations.

Choir.
Hymn, "Saviour, Again to Thy Dear Name We Raise" (A. and M. No. 31).

A. WOOD (Baritone).
Sacred Song, "Nazarath" Gounod

9.0.—ST. ANDREW'S NIGHT. S.B. from London.

10.0.—WEATHER FORECAST and NEWS. S.B. from London.

Local News.
10.15.—St. Andrew's Night (Continued).
10.40.—Close down.

5WA CARDIFF. 351 M.

3.30-4.45. THE STATION ORCHESTRA.
Conductor, WARWICK BRAITHWAITE.
Vocalist, ASTRA DESMOND.

Orchestra.
Overture, "Rienzi" Wagner

Astra Desmond.
"The Song of the Blackbird" Quilter (1)
"The Spring is at the Door" Quilter (4)

"Morning Song" Quilter
Orchestra.
Suite, "Summer Days" Contes

(1) "In a Country Lane"; (2) "On the Edge of the Lake"; (3) "At the Dance."

Astra Desmond.
"Where Be Goin'?" (Old) { arr. Cyril

"Cherry Ripe" English } Scott (4)
"Summer is Icomin' In" English }

Orchestra.
"Chanson du Matin" Elgar (11)
"Canard" Monti

Astra Desmond.
"Love is Meant to Make us Glad" German
"Halleluia" ("Carnion") Elgar

Rondel Elgar
Orchestra.
Keltic Suite Foulds

(1) "The Clan"; (2) "A Lament"; (3) "The Call."

5.0-5.30.—CHILDREN'S SERVICE. S.B. from London.

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 447.

WIRELESS PROGRAMME—SUNDAY (Nov. 30th.)

The letters "L.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

- 8.30-9.0.—The Rt. Rev. The LORD BISHOP OF WINCHESTER. *S.B. from Bournemouth.*
 9.0.—ST. ANDREW'S NIGHT. *S.B. from London.*
 10.0.—WEATHER FORECAST and NEWS. *S.B. from London.*
 Local News.
 10.15.—St. Andrew's Night (Continued).
 10.40.—"The Silent Fellowship."
 10.55.—Close down.

2ZY MANCHESTER. 375 M.

3.0-5.0. BAND OF THE SALFORD POLICE
 (By permission of the Chief Constable.)
 Conductor, THOMAS WILSON.
 REGINALD WHITEHEAD (Bass).
 Band.

"Florentine March" *Faith*
 Suite in F for Military Band *Holst (1)*
 [This Suite is founded on Old English Country Tunes.]

(1) March; (2) Song Without Words—
 "I'll Love My Love"; (3) "Song of
 the Blacksmith"; (4) Fantasia on the
 Dargason.

Morceau, "Salut d'Amour" *Elgar*
 Excerpts Idyll, "Whispering of the
 Flowers" *Blom*
 Bass Solos.

Recit., "I Rags, I Mett," *And*
 "Aria" *Handel*
 Aria, "O Roderick, then" *Galatas*
 the Cherry

"Old English Love Song" *Alison (1)*
 "Drink to Me Only With Thine Eyes"
Roger Quilter

Band.
 Overture, "Egmont" *Beethoven*
 Selection, "Ballad Memories" *Baynes (1)*
 Morceau, "Humoresque" *Spindler (11)*
 Bass Solos.

Recit., "Tyrannus"
 Love *Suzanna*, *Handel*
 Aria, "Ye Verdant Hills"
 Hills

"Thy Beating Eyes" *MacDowell (4)*
 "Three Songs of the Sea" *Roger Quilter*
 (1) "The Sea Bird"; (2) "Moonlight";
 (3) "By the Sea."

Band.
 "Three Bavarian Dances" *Elgar (15)*
 Pieces "Severide" *Chaminade (5)*
 "Cathedral"

Intermezzo, "Canterbury Chimes" *Ancliffe*
 5.0-5.30.—CHILDREN'S SERVICE. *S.B. from London.*

8.0.—SIDNEY G. HONEY: Talk to Young People.

8.25.—Hymn, "O Come, O Come, Emmanuel" (A. and M. No. 49).

Religious Address by the Rev. WARDLE RIDLEY, of Reddish Congregational Church.

St. Andrew's Hymn, "Jesus Calls Us" (A. and M. No. 403).

9.0.—ST. ANDREW'S NIGHT. *S.B. from London.*

10.0.—WEATHER FORECAST and NEWS. *S.B. from London.*

Local News.

10.15.—St. Andrew's Night (Continued).

10.40.—Close down.

5NO NEWCASTLE. 400 M.

3.0-5.0. Recital on Two Pianos.

by
 H. YEAMAN DODDS AND
 GEORGE DODDS.

With
 THE STATION STRING ORCHESTRA
 (Leader, Alfred M. Wall):

Conductor, EDWARD CLARK.
 Songs by IDA COWEY (Soprano).
 H. Yeaman Dodds and George Dodds.

Concerto in C Minor *Bach*
 (a) Allegro; (b) Adagio; (c) Allegro.
 String Orchestra.

"The Holy Day" *John Ireland*

H. Yeaman Dodds and George Dodds.

"La Carnaval des Animaux" *Saint-Saens*

Ida Cowey.

Aria from "St. John Passion" *Bach (11)*

"My Heart Ever Faithful" *Bach (11)*

(With Violoncello Obligato.)

ALFRED M. WALL (Solo Violin).

Allegro *Fiacco*

Ida Cowey.

"Lady! Thou Queen of Israel" ("Judith")

Parry (11)

"Christ in His Garden" *Tchaikovsky*

H. Yeaman Dodds and George Dodds.

Fantasia in C Minor *Mozart-Grieg*

5.0-5.30.—CHILDREN'S SERVICE. *S.B. from London.*

8.30-9.30. PHILHARMONIC CONCERT.

(Relayed from The Palace Theatre.)

9.30.—ST. ANDREW'S NIGHT. *S.B. from London.*

10.0.—WEATHER FORECAST and NEWS. *S.B. from London.*

Local News.

10.15.—St. Andrew's Night (Continued).

10.40.—Close down.

2BD ABERDEEN. 495 M.

3.0-5.0. JOAN KEDDIE (Soprano).

THE GRANDHOLM GLASS BAND.

Conductor, JOHN L. MELVIN.

THE WIRELESS ORCHESTRA.

Band.

Descriptive Piece, "A Sunday Parade" *Huchins*

Cornet Solo, "The Nightingale" *Moss*

(Soloist, JOHN L. MELVIN, Junr.)

"Hear, Ye Israel" ("Elijah")

Shepherd's Cradle Song *Saint-Saens*

Overtures "Hungary Rhapsody" *Erkel*

"Masaniello" *Andri*

Band.

Largo in G *Handel*

Air Varié, "Sun of My Soul" *Butler*

Joan Keddie.

"With Verdure Clad" ("The Creation")

Haydn (11)

"Praise" *Dyson*

Orchestra.

"In the Italian Style" *Schubert*

"Festival" *Keler-Bala*

Band.

Euphonium Solo, "Anchored" *Wadson*

(Soloist, Bandman R. MELVIN.)

Fantasia, "Angel Echoes" *De Lacy*

Joan Keddie.

"There" *Parry (11)*

"Jerusalem" *Parry (2)*

Band.

March, "Calcutta" *Finner*

Air Varié, "Eventide" *Rimmer*

5.0-5.30.—CHILDREN'S SERVICE. *S.B. from London.*

8.30. Church Service.

Relayed from North United Free Church.

Minister, The Rev. ELLIS PEARSON.

M.A., St. Paul's Street Congregational Church.

9.30. THE WIRELESS SEPTET.

Selected Hymns.

9.40. JOSEPHINE MACPHERSON

(Soprano).

"The Lord is My Shepherd" *Wilson (11)*

"Ave Maria" *Gounod*

Septet.

Selected Hymns.

10.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Local News.

10.15. Josephine Macpherson.

"My Task" *Ashford*

"Easter Hymn" *Hantock*

10.25. "Septet."

Selected Hymns.

10.30. Josephine Macpherson.

"Lead, Kindly Light" *Fraser (11)*

"The Angelus" *Russell*

10.40. "Septet."

Selected Hymns.

10.45.—Close down.

5SC GLASGOW. 420 M.

St. Andrew's Day.

THE STATION ORCHESTRA:

Conducted by

HERBERT A. CARBOTHERS.

J. GORDON CLARK (Bass).

Orchestra.

Overture, "Fingal's Cave" *Mendelssohn*

Four Pieces from Suite in D Major *Bach*

(Arranged for String Orchestra by

Charles Woodhouse.)

Pieces "Chanson Triole" *Tchaikovsky*

"Humoresque" *Tchaikovsky*

3.25. Bass Solos.

"Nancy's Hair" *arr. M. Kennedy*

"The Road to the Isles" *Fraser (1)*

"The Land o' the Leal"

arr. Chas. Macpherson

3.50. Orchestra.

Symphony in D *Haydn*

Adagio Allegro; Andante; Moderato;

Allegro Spiritoso.

4.15. Bass Solos.

"Ac Fond Kiss" *Tradition (34)*

"Bonnie Wee Thing" *Tradition (34)*

4.25. Orchestra.

Two Movements from Symphony Fan-

tasque *Beethoven*

On Bul; Marche au Supplice.

Intermezzo, Suite Danzante *Fraser*

Valze Lente; Pas Seul; Danse Tarabourin.

Overture, "Oberon" *Weber*

5.0-5.30.—CHILDREN'S SERVICE. *S.B. from London.*

8.30. Choir.

Hymn No. 11, First Tenor, Church Hymnary.

The Rev. J. P. BARNHURMAN, M.A., of

Carnegie Parish Church: Religious

Address.

Hymn No. 14 (Tune, "St. Florian")

(Church Hymnary).

Prayer.

Hymn No. 24 (Tune, "Westminster")

(Church Hymnary).

9.0. Lecture Recital of

"DOMSIE"

(Ann MacLaren).

By AUGUSTUS HEDDIE.

Before the days of School Boards, Domsie, as he was lovingly called behind his back, buried himself among the woods with the bairns of Drumtochty. He died a bachelor and seemed to give all his love to the children, and nearly all his money, too, helping lads to college. He declared to Drumtochty, "The grass'll no grow on the road between the College an' the schoolhouse o' Drumtochty till they lay me in the auld kirkyard." The discovery of a "lad o' pairts" was counted a day in his life, and when the "Schuls" knew that George Hoo was marked for college they pelted him with fir cones in great gladness of heart. Dominie Jamieson was the type of schoolmaster that no boy or girl, who had sat at his feet, could ever cease to love and revere.

10.0.—WEATHER FORECAST and NEWS. *S.B. from London.*

Local News.

10.15.—Programme: *S.B. from London.*

10.40.—Close down.

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 422.

Continental Broadcasting.

Owing to frequent changes of wave-length and times of transmission, absolute accuracy cannot be guaranteed, but each time we go to press with this list it will be carefully checked with the latest available information. The times given are according to Greenwich Mean Time.

FRANCE
BIFFEL TOWER (P.T.)—Paris, 2,600 m.
 Daily: 8.40 a.m., Weather (Sat. Sun.); 11.0. Markets (Sat. Sun. and Mon.); 11.15. Time Sig., Weather; 2.45, 3.35, 4.20 p.m., Stock Exch. (Sat. Sun. and Mon.); 4 p.m., Con., News (not daily); 7 p.m., 10.10, * Weather (Sat. Sun.). * On 1st and 15th of each month at 4.45 p.m.

RADIO-PARIS (S.F.R.)—Paris, 1,780 m.
 Sundays: 12.15 p.m., Orch.; 1.45. News; 4.45. Con.; 8.30 p.m., News; 9 p.m., Con.; 10 p.m., Dance.
 Week-days: 12.30 p.m., News, Stock Exch., Orch.; 4.30. Markets, Con.; 5.45. Stock Exch., News, Women's Hour; 8.30. Loc. News, Con.; 10 p.m., Dance (not daily).

ECOLE NUP. DES POSTES ET TELEGRAPHES (P.T.)—Paris, 450 m.
 4 p.m., Loc. (Tue. and Thur.); 8 p.m., Eng. Conv. and (Tue.); 8.50 p.m., Loc. or Con. (daily), the 2nd Sun. of each month, Organ Recital at 8.45 p.m.

PEIT PARISIAN—450 m.
 8.30 p.m., Con. (Tue., Thur., and Sat.).

LYONS-LA DOCTA—460 m.
 Daily: 10.30 a.m. and 8 p.m., News and Con.

AGNY—335 m. New Station Testing.

GERMANY

NUREMBERG (Relay Station)—340 m. From Munich.

HAMBURG—305 m.
 Sundays: 1.55 a.m., Time Sig., Weather, News, Loc., Women; 10.15. Sacred Con.; 11.15. Chess; 12.15. Con.; 1.30 p.m., Children; 4.30. Con.; 5.45. English; 7 p.m., Con. or Opera; 9 p.m., onwards, as week-days.

Week-days: 4.35 a.m., Time Sig., News; 11.15. Markets; 12.0. Time Sig.; 1.30 p.m., Markets; 2 p.m., News, Markets, Women's Hour; 5 p.m., Con.; 6 p.m., Loc.; 7 p.m., Con. or Opera; 9 p.m., Weather, Markets, Sport; 9.30. News (in English); Dance (not daily).

MUNSTER—410 m.
 6.55. Time Sig., News; 10 a.m., Sacred Con. (Sun.); 11.30. Stock Exch., Time Sig.; 2.00 p.m., Markets, News; 3 p.m., Orch.; 8.40. Children (Wed. and Sat.); Weather, News; 7.15. Con.; Dance (Sat.); 8.15. News.

BRESLAU—415 m.
 10.15 a.m., Stock Exch., Weather; 11.0. Sacred Con. (Sun.); 11.55. Time Sig., Weather (Sun.); 12.25 (week-days); 2 p.m., News; 3 p.m., Children (Sat. and Sun.); 4.30. Orch., Loc. (Sun.); 6.30. Esperanto (Mon.); 7.30. Con., Loc. and Dance.

BERLIN (1)—430 m. (2) 505 m.
 8 a.m., Sacred Con. (Sun.); 9 a.m., Education (Sun.); Markets, News; 10.55, 11.15. Stock Exch.; 12.0. Time Sig., News, Weather; 1.15 and 2 p.m., Stock Exch.; 2.30. Children (Sun. and Wed.); 3.15. Stock Exch., Orch.; 5.20 p.m., Women, Loc.; 6 p.m., French Lesson (Mon.); Loc. other days; 7.30 p.m., Con. or Opera, News, Time Sig.

STUTTGART—445 m.
 10.30 a.m., Con. (Sun.); 11. Markets; 3 p.m., Con. and News (Sun.); 3.50. News; 4.30 p.m., Markets, Con., Weather, Time Sig., Children (Wed. and Sat.); Women's Hour, (Fri.); 5 p.m., News, Time Sig. (Sun.); 5.50 p.m., (week-days); 6.30. Loc. (Mon. and Tue.); English Conv. (Fri.); 7-8.30 p.m., Con., Weather, Time Sig., News (daily).

LIPZIG—445 m.
 8 a.m., Sacred Con. (Sun.); 10.55. Markets; 11.55. Time Sig. (week-days); 12 and 3 p.m., Stock Exch., News, Con. (Sun.); Children (Wed.); Con. (week-days); 5 p.m., Markets (week-days); 6 p.m., Loc., Esperanto (Mon.); Chess (Wed.); 8.45 p.m., English (Tue.) Con. or Opera, News, Dance (Sun.). *All items daily except where otherwise stated.

KOENIGSBERG—445 m.
 7.10 a.m., Markets (Wed. and Sat.); 8 a.m., Sacred Con. (Sun.); 10.15. Markets; 10.55. Con. (Sun.); 11.15. Time Sig.; 1.15 p.m., News; 2 p.m., Stock Exch., Orch.; Children (Wed. and Fri.); 6 p.m., Loc.; 7 p.m., Con., Weather, News; 8.10 p.m., Con. or Dance.

FRANKFURT-ON-MAIN—470 m.
 7 a.m., Sacred Con. (Sun.); 10.10. News; 10.55. Time Sig. and News; 3 p.m., Con. (Sun.); Markets, Orch.; 4 p.m., Children (Sun.); 5 p.m., Loc.; 6.30. Loc., Esperanto (Fri.); 7 p.m., Eng. Conv. (Mon. and Wed.); Con. or Opera; 8.30. News, Women, Loc., Women; 9 p.m., Time Sig., Con. (dreg.).

MUNICH—485 m.
 9.30 a.m., Sacred Con. (Sun.); 1 p.m., Time Sig., News, Weather; 3.50. Con.; 4 p.m., Children (Wed.); 4.50 p.m., English Conv. (Mon.); Esperanto (Thurs.); 5 p.m., Markets, News, Women's Hour (Tue. and Fri.); 5.50 and 6.30 p.m., Con. and Loc.; 7.30. Con., News, Weather, Time Sig.; 8 p.m., Dance, News, Weather, Time Sig. (Sat.).

KOENIGSWUSTERHAUSEN (L.P.)—Near Berlin.
 680 m. 8.50 a.m., Con. (Sun.).
 2,450 m. 10.20 a.m., Con. (Fri.).
 2,550 m. 6.30 a.m., 12.40 p.m., Wolf's Press News.
 2,900 m. 10.50 a.m., Con. (Sun.).
 3,150 m. and 4,000 m. 8 a.m. to 8 p.m., News Service.

BELOGIUM
BRUSSELS (S.R.)—262 m.
 Daily: 5 p.m., Orch., Children (Wed. and Thur.); Dance (Tue. and Sat.); 9 p.m., News; 9 p.m., Loc.; 8.15. News, Con.; 10 p.m., News.

BAIRES (RAY)—1,000 m.
 Week-days: 1 p.m., 2 p.m., 4.30 and 6.30 p.m., Weather.

HOLLAND
AMSTERDAM (P.T.)—3,000 m.
 2.20 p.m., Con. (Wed.); 8.40 p.m., News; 9.10 p.m., Con. (dreg.).

AMSTERDAM (N.Y.F.)—2,000 m.
 News and Stock Exch. from 7.30 a.m.

HILVERSUM (S.F.R.)—1,550 m.
 7.40 p.m., Con. (Sun.); 8.45 p.m., Loc. (Fri., dreg.); 9.45 p.m., Children (Mon.).

HUNGARY
BUDAPEST (M.T.)—450 m.
 Half-hourly from 8.45 a.m., News, Stock Exch.; 10 a.m., Con. (daily); 11.30. News.

SWITZERLAND
GENEVA (R.M.)—1,100 m.
 Daily (Sat. Sun.): 12.15 p.m., Loc.

LAUSANNE (R.M.)—850 m.
 Daily: 7.5 a.m., Weather; 12.10 p.m., Weather, Time Sig. and News; 4 p.m., Children (Wed.); 8.15 p.m., Con. (Daily Sat. Wed.), Dance (Time and Sat.).

ZURICH (M.M.)—620 m.
 Week-days: 12.0. Weather, News, Stock Exch.; 3 p.m., Con.; 5.15. Children (Mon., Wed., Fri.); 8 p.m., Weather, News; 7.15. Loc., Con., News, Weather; Dance (Sat.). Sundays: 3. and 7.15 p.m., Con., News, Weather.

AUSTRIA
VIENNA (RADIO WIKI)—430 m.
 Daily: 8 a.m., Markets; 10. Time Sig., Con.; 12.30 p.m., Weather; 2.00. Stock Exch.; 3.0 p.m., Time Sig., News, Con.; 4.15. Children (Tue., Fri.); 6.30. News, Weather; 7 p.m., Time Sig., Con., News; 9 p.m., Dance (Wed., Sat.).

YUGO-SLAVIA
BELOGRADE—1,050 m.
 8.45 p.m., Con. (Tue., Thur., Sat.).

RUSSIA
MOSCOW—5,250 m.
 12.30 p.m., Loc. (dreg.).

CZECHO-SLOVAKIA
KOLIV (O.K.)—1,150 m.
 Week-days: 10.30 a.m., 12. 12.45 p.m., 4 and 5 p.m., Stock Exch.; 6.15 p.m., Loc., News, Weather, Con. (Time Sig., 7 p.m., Sat.); 10 a.m., Con. (Sun.).

KOMAROV (O.K.)—1,800 m.
 1 p.m., Stock Exch., Weather, News (week-days); 6 p.m., Con. (Thurs.); 6 a.m., Con. (Sat.).

ITALY
ROME (R.M.)—425 m.
 7.40. Con. (daily).

SPAIN
MADRID (Radio Iberica)—395 m.
 Daily: 7.15 p.m., Weather, Time Sig., Stock Exch., News, Con.; 10.45 p.m., Con., Time Sig. (11.14 p.m.); 11.30 p.m., Con., Dance Music.

BARCELONA—335 m. New Station, 8 p.m. and 9 p.m.

COPENHAGEN—150 m.
 7 p.m., Con. (Sun. and Wed.).

LINGBY (O.K.)—2,400 m.
 Week-days: 6.30 p.m.; 8 and 9 p.m., News, Weather, Time.

STAVANO—1,025 m.
 6.30 p.m., Eng. Lesson (Wed.); 7 p.m., Con. (Tue., Fri.).

SWEDEN
STOCKHOLM (C.V.)—440 m.
 10.10 a.m., Religious Service (Sun.); 11.30. Weather, etc. (daily); 8.15 p.m., Con. and News (daily).

STOCKHOLM (Radio A.C.T.)—450 m.
 7.30 p.m., Con. and News (Tue., Thur., Sat., Sun.).

GOTHENBURG—460 m.
 6.30 p.m., Con. (Tue., Fri., Sat.).

GOTHENBURG—460 m.
 6.10 p.m., Con. (Mon., Wed., Thurs.).

BODEN—2,000 m.
 6.40 p.m., Con. (Tue., and Fri.); 4.40 p.m., Con. and News (Sun.).

PRINCIPAL U.S.A. AND CANADIAN BROADCAST STATIONS.

KGO—312 m. Oakland, Cal.
KDKA—525 m. East Pittsburgh, Pa.
WHZ—339 m. Springfield, Mass.
WGY—390 m. Schenectady, N.Y.
WJY—403 m. New York City.
CKAC—475 m. Montreal, Ca.
CFAC—430 m. Calgary, Ca.
WJZ—455 m.
WLAF—492 m. New York City.

EVENTS OF THE WEEK.

SUNDAY, November 30th.

LONDON, 3.0.—Wagner and Tchaikovsky Programme.

LONDON, 8.30.—"St. Andrew's Night." S.B. to other Stations.

BOURNEMOUTH, 3.0.—Band of the Royal Artillery.

BOURNEMOUTH, 8.30.—The Rt. Rev. The Lord Bishop of Winchester. S.B. to other Stations.

NEWCASTLE, 8.30.—Philharmonic Concert, relayed from the Palace Theatre.

MONDAY, December 1st.

All Stations except Belfast, 7.35.—The Opera "Carmen" (Bizet).

TUESDAY, December 2nd.

BIRMINGHAM, 7.30.—An Evening with Shakespeare.

CARDIFF, 7.30.—Old British Ballads.

NEWCASTLE, 7.30.—Band of H.M. Grenadier Guards.

WEDNESDAY, December 3rd.

LONDON, 8.8.—Mrs. KENDAL and Lady TREE in "Granny's Juliet." S.B. to all Stations.

BIRMINGHAM, 8.0.—Radio Fantasia No. 2—"Life's Summer Time."

ABERDEEN, 7.30.—Music and Songs of the Sea. Band of H.M. Grenadier Guards.

BELFAST, 7.30.—Mainly Dvorak.

THURSDAY, December 4th.

LONDON, 7.30.—"The Rose of Persia." S.B. to other Stations.

BIRMINGHAM, 7.35.—"Bethlehem," relayed from the Town Hall.

GLASGOW, 7.35.—The Band of H.M. Grenadier Guards.

FRIDAY, December 5th.

BOURNEMOUTH, 7.30.—"Byrd-Purcell Arias."

CARDIFF, 7.30.—An Evening with Mozart.

MANCHESTER, 7.30.—The Band of H.M. Grenadier Guards.

SATURDAY, December 6th.

BIRMINGHAM, 7.30.—The Band of H.M. Grenadier Guards.

ABERDEEN, 7.30.—Operatic Night.

LAYTON and JOHNSTONE, the celebrated American Duetists, will broadcast from the London Studio on Wednesday and Saturday at 10.20 and 10.50 (approx.). S.B. to all Stations.



EIDER DUCK AND GADWALL.

These birds will be described by Mr. E. Kay Robinson during his talk on "British Birds," to be given from London, on Tuesday, December 2nd.

WIRELESS PROGRAMME—MONDAY (Dec. 1st.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

2LO LONDON. 365 M.

3.15-3.45 "Ten-minute to Schools." Mr. JOSEPH SHAW on "Music."

4.0-5.0.—Ten-minute Signal from Greenwich. Concert: The "2LO" Trio and Blanche Allen (Soprano), C. Pollard (Cello) and "Japan," "The Art of Te." Stories to Children, by Muriel Wright.

5.30-6.15.—CHILDREN'S CORNER: Mary Locke (aged 14), Pauline (12), Thelma Hughes (aged 6), and How Robin Sold Potatoes at N. Fair (2), from Greenwood Tales retold by Dorothy King.

6.40-6.55 M. Johan Russelltaggs Blake, the "Hafal Hound."

7.0 TIME SIGNAL FROM BIG BEN WEATHER FORECAST and 2ND GENERAL NEWS BULLETIN S.B. to all Stations.

Talk by the Radio Association. S.B. to all Stations.

Mr. W. N. T. TAMS, Assistant Dept. of Entomology at the Natural History Museum, on "Moths." S.B. to other Stations.

Local News

7.35. All Stations Programme. (For particulars see centre column.)

8.20 TIME SIGNAL FROM GREENWICH WEATHER FORECAST and 2ND GENERAL NEWS BULLETIN. S.B. to all Stations.

Topical Talk

Local News

9.0 THE SAVOY ORPHEANS AND SAVOY HAVANA BANDS. relayed from the Savoy Hotel London. S.B. to all Stations.

11.0.—Close down

5IT BIRMINGHAM. 475 M.

3.30-4.15.—Ten-minute Signal from Greenwich.

5.0-5.30.—WOMEN'S CORNER: Mrs. F. R. H. S., Typical Horticultural Hunt. Gladys Jenner (Soprano).

5.30-6.30.—CHILDREN'S CORNER

6.30-6.45.—"Teens' Corner." Mr. Fred J. Clifford. L.R.A.M., on "Musical Appreciation—Purcell, Handel, Bach."

7.0-11.0.—The entire Programme S.B. from London

6BM BOURNEMOUTH. 385 M.

3.30-5.0.—The Bournemouth Military Band. Hilda Douglas (Soprano), Gilbert Wright (Cornet). Talk to Women, "The Story of a Painter," by Alice Hutchings.

5.0-6.0.—CHILDREN'S CORNER: Song and Stories by Uncle Rob and Annie E. Stamp Talk, by Uncle Neville. "Entertainment Talk to Boys," by Uncle Caven.

6.0-6.30. Scholars' Half Hour: Mr. W. F. Perry on "The Geography of Trees."

6.30-6.45.—Lessons in Morse Transmission by Mr. Douglas (Norman).

7.0-11.0.—The entire Programme S.B. from London

5WA CARDIFF. 351 M.

3.0-4.0. Trifflman and his Orchestra, relayed from the Capitol Cinema.

ALL STATIONS PROGRAMME

(except Belfast).
Relayed from London.
7.35-9.39.

"Carmen"

(Georges Bizet).

An Opera in Four Acts.

Cast:

Don José, a Corporal of Dragoons WILLIAM BESELTINE

Escamillo, a Torero JOSEPH FARRINGTON

El Remolado, a Smuggler S. HARRISON

Zeniga, a Captain JOHN HUNTINGTON

Morales an Officer DENNIS

El Dancairo, a Smuggler

Micaela, a Peasant Girl GERTRUDE JOHNSON

Frasquita (Gipsies, Friends) WINIFRED FISHER

Mercader (Carmen) of VIVIENNE CHATTERTON

Carmen, a Cigarette Girl and Cupay END CRICKSHANK

Chorus.

THE WIRELESS SYMPHONY ORCHESTRA:

Conducted by

DAN GODFREY, Junr.

Act I A square in Seville
Act II A tavern on the outskirts of Seville.
Act III A wild mountain pass.
Act IV A square in Seville outside the Bull-ring

SWAS' FIVE O'CLOCK
Talks to Women: Vocal and Instrumental Artists

CHILDREN'S CORNER

7.0. WEATHER FORECAST and NEWS.

S.B. from London

Radio Association Talk S.B. from London

Mr. RICHARD TRESEDER F.R.H.S., on

Gardens

Local News

7.35-11.0 The entire Programme S.B. from London

IMPORTANT TO READERS.

LETTERS FOR THE EDITOR should be addressed to "The Radio Times," 8-11, Southampton Street, Strand, W.C.2.

LETTERS FOR THE R.B.C., containing programme suggestions or criticisms, should be sent to the Organiser of Programmes, 2, Savoy Hall, W.C.2.

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"RADIO TIMES" READING CASE.

Messrs. George Newnes, Ltd., have now prepared a handsome case in red cloth with gilt lettering for "The Radio Times," complete with cord down the back to hold a copy of this publication. A pencil is indispensable to the listener during the course of the programme, and this is included conveniently in a slot at the side. Listeners should order this to-day from any Newsgent. It is published at 2s. 6d., or send 4d. extra to cover postage for a case from the Publisher, 8-11, Southampton Street, Strand, London, W.C.2.

2ZY MANCHESTER. 375 M.

3.0-3.30. Music relayed from the Piccadilly Picture Theatres.

3.30-4.0. Broadcast to Secondary Schools (J. lots). Mr. W. H. BARKER, B.Sc., F.R.G.S., on "Negro Life in West Africa."

4.30-5.0.—WOMEN'S HALF HOUR: Eliza Ashcroft (Bartlett).

5.0-6.0.—CHILDREN'S CORNER

6.0-6.55.—Prof. F. E. Webb, D.Sc., F.R.S., on "Botany—(2) The Weather Plant."

7.0.—WEATHER FORECAST and NEWS. S.B. from London.

Radio Association Talk. S.B. from London Local News.

7.30-7.35. Local News.

7.35.—"CARMEN" S.B. from London

9.30. WEATHER FORECAST and NEWS. S.B. from London

Farmers' Corner. Mr. G. H. DONBIN, Head Poultry Inspector to the Lancashire County Council, on "Poultry Keeping."

Local News

10.0.—THE SAVOY BANDS. S.B. from London

11.0.—Close down

5NO NEWCASTLE. 400 M.

3.0-3.30. Queen's Birthday: E.P. Scott (Recital on)—Trompeter's "Welcome to Alexandra." Reims Wall's Trio

4.45-5.15. WOMEN'S HALF HOUR: Weekly News Letter. Miss Cooper Hodgson—Health Talk

5.15-6.0. CHILDREN'S CORNER

6.0-6.30. Scholar's Half Hour

7.0-11.0. The entire Programme S.B. from London

2BD ABERDEEN. 495 M.

3.30-5.0.—Concert: "The Wireless Or." Vocal and Violin Recital by Malcolm Davidson and Mrs. J. G. Burnett. (The Composer, Malcolm Davidson, will sing his own songs.) Female Topics.

5.30-6.0.—CHILDREN'S CORNER: Mr. J. G. Burnett. L.R.A.M., on "Learning to Listen."

6.30-6.35.—Girl Guides' and Boy Scouts' News Bulletin

7.0-8.40.—Programme S.B. from London.

9.40.—Prof. ALEXANDER FINDLAY M.A. D.Sc., Ph.D., on "Catalysis." S.B. to all Stations.

Local News

10.0.—THE SAVOY BANDS. S.B. from London

11.0.—Close down

5SC GLASGOW. 420 M.

3.30-4.50. The Wireless Quartet. Alexander Richard (Bass). Afternoon Topics.

5.15-6.0.—CHILDREN'S CORNER: Let's Competition Results. Uncle Mongo will explain the details of "The Mysterious Club."

6.0-6.5.—Weather Forecast for Farmers

7.0-9.40.—Programme S.B. from London

9.40.—Capt. C. H. Brown, on "Mercantile Shipping." S.B. to Belfast Local News.

11.0.—THE SAVOY BANDS. S.B. from London

11.0.—Close down

A number against a musical note indicates the name of the publisher. A key list of publishers will be found on page 420.

WIRELESS PROGRAMME—TUESDAY (Dec. 2nd.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

2LO LONDON. 365 M.

10.20—Time Signal from Greenwich. Concert. The "2LO" Trio and John Ayres (Tenor).

3.45—Transmission to Schools: Mr. E. Kay. 4.00—Transmission to Schools: Mr. E. Kay. 4.15—Orchestral Music relayed from Shepherd's Bush. 4.30—The Great Wall of China by (Romance) James.

5.15—CHILDREN'S CORNER: Eric Simco, Aged 13, Songs. Hyda Davy (Aged 11, Recitations. "Blue Tit and the Tree," by John Davy. "March toward the Wake," by Hazel Phillips. Handshaw.

6.40-6.55—An Appeal by Sir ERNEST BARKER for the Foundation Gift British Endowment.

7.00—The Station Piano Quintet. 7.15—The Station Piano Quintet. 7.30—The Station Piano Quintet.

7.45—The Station Piano Quintet. 8.00—The Station Piano Quintet. 8.15—The Station Piano Quintet.

8.30—The Station Piano Quintet. 8.45—The Station Piano Quintet. 9.00—The Station Piano Quintet.

9.15—The Station Piano Quintet. 9.30—The Station Piano Quintet. 9.45—The Station Piano Quintet.

10.00—The Station Piano Quintet. 10.15—The Station Piano Quintet. 10.30—The Station Piano Quintet.

10.45—The Station Piano Quintet. 11.00—The Station Piano Quintet. 11.15—The Station Piano Quintet.

11.30—The Station Piano Quintet. 11.45—The Station Piano Quintet. 12.00—The Station Piano Quintet.

12.15—The Station Piano Quintet. 12.30—The Station Piano Quintet. 12.45—The Station Piano Quintet.

1.00—The Station Piano Quintet. 1.15—The Station Piano Quintet. 1.30—The Station Piano Quintet.

1.45—The Station Piano Quintet. 2.00—The Station Piano Quintet. 2.15—The Station Piano Quintet.

2.25—The Station Piano Quintet. 2.40—The Station Piano Quintet. 2.55—The Station Piano Quintet.

3.00—The Station Piano Quintet. 3.15—The Station Piano Quintet. 3.30—The Station Piano Quintet.

3.45—The Station Piano Quintet. 4.00—The Station Piano Quintet. 4.15—The Station Piano Quintet.

4.25—The Station Piano Quintet. 4.40—The Station Piano Quintet. 4.55—The Station Piano Quintet.

5.00—The Station Piano Quintet. 5.15—The Station Piano Quintet. 5.30—The Station Piano Quintet.

5.45—The Station Piano Quintet. 6.00—The Station Piano Quintet. 6.15—The Station Piano Quintet.

6.25—The Station Piano Quintet. 6.40—The Station Piano Quintet. 6.55—The Station Piano Quintet.

7.00—The Station Piano Quintet. 7.15—The Station Piano Quintet. 7.30—The Station Piano Quintet.

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8.30—The Station Piano Quintet. 8.45—The Station Piano Quintet. 9.00—The Station Piano Quintet.

9.15—The Station Piano Quintet. 9.30—The Station Piano Quintet. 9.45—The Station Piano Quintet.

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11.30—The Station Piano Quintet. 11.45—The Station Piano Quintet. 12.00—The Station Piano Quintet.

12.15—The Station Piano Quintet. 12.30—The Station Piano Quintet. 12.45—The Station Piano Quintet.

Sir HALFORD MACKINDER: British Commonwealth of Nations Series. S.B. to all Stations except Glasgow and Belfast. Local News.

10.0. The Band. "Intermezzo, 'In a Persian Market'" Kotelbey.

Earl Spenser and Laurence Brown. Next by Special Arrangement. 10.15—Lawrence Brown.

"Swing Low Sweet Chariot." "I have no Love with the Hands on Me."

"Steal Away." "Every Time I Feel the Spirit." The Band.

Fox-trots: "Let a Woman Waitle," 16. "Monayanna," (6).

10.30. Close down.

5TT BIRMINGHAM. 475 M.

3.30-4.0.—The Station Piano Quintet. 4.0-4.30.—The Station Piano Quintet.

4.30-5.0.—The Station Piano Quintet. 5.0-5.30.—The Station Piano Quintet.

5.30-6.0.—The Station Piano Quintet. 6.0-6.30.—The Station Piano Quintet.

6.30-7.0.—The Station Piano Quintet. 7.0-7.30.—The Station Piano Quintet.

7.30-8.0.—The Station Piano Quintet. 8.0-8.30.—The Station Piano Quintet.

8.30-9.0.—The Station Piano Quintet. 9.0-9.30.—The Station Piano Quintet.

9.30-10.0.—The Station Piano Quintet. 10.0-10.30.—The Station Piano Quintet.

10.30-11.0.—The Station Piano Quintet. 11.0-11.30.—The Station Piano Quintet.

11.30-12.0.—The Station Piano Quintet. 12.0-12.30.—The Station Piano Quintet.

12.30-1.0.—The Station Piano Quintet. 1.0-1.30.—The Station Piano Quintet.

1.30-2.0.—The Station Piano Quintet. 2.0-2.30.—The Station Piano Quintet.

2.30-3.0.—The Station Piano Quintet. 3.0-3.30.—The Station Piano Quintet.

3.30-4.0.—The Station Piano Quintet. 4.0-4.30.—The Station Piano Quintet.

4.30-5.0.—The Station Piano Quintet. 5.0-5.30.—The Station Piano Quintet.

5.30-6.0.—The Station Piano Quintet. 6.0-6.30.—The Station Piano Quintet.

6.30-7.0.—The Station Piano Quintet. 7.0-7.30.—The Station Piano Quintet.

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9.30-10.0.—The Station Piano Quintet. 10.0-10.30.—The Station Piano Quintet.

10.30-11.0.—The Station Piano Quintet. 11.0-11.30.—The Station Piano Quintet.

11.30-12.0.—The Station Piano Quintet. 12.0-12.30.—The Station Piano Quintet.

12.30-1.0.—The Station Piano Quintet. 1.0-1.30.—The Station Piano Quintet.

1.30-2.0.—The Station Piano Quintet. 2.0-2.30.—The Station Piano Quintet.

2.30-3.0.—The Station Piano Quintet. 3.0-3.30.—The Station Piano Quintet.

3.30-4.0.—The Station Piano Quintet. 4.0-4.30.—The Station Piano Quintet.

70. WEATHER FORECAST and NEWS.

S.B. from London. ARCHIBALD HADDON. S.B. from London. Local News.

Concert Party Night. THE SCANDALMONGERS. JACK RICHARDS (Comedian).

VIOLET STEVENS (Comedian). EVELYN BAY (Comedian). THE WIFELESS CHEF.

Conducted by Capt. W. A. FEATHERSTONE. 7.30.

Spanish March, "Triana" ... "Lops Incident Music, "Monsieur Beaucaire" ...

7.50. The Scandal mongers. Jack Richards will attempt to say a few words on Egypt.

Violet Stevens presents a Love Poem ... Jack Richards will now discuss Railway ...

8.00. The Scandal mongers. 8.15. The Scandal mongers.

8.30. The Scandal mongers. 8.45. The Scandal mongers.

8.55. The Scandal mongers. Selection, "The Duchess of Dant" ...

Valsette, "Wood Nymphs" ... "Leap Year" ...

9.25. "Father's Insured" ... In a heated discussion on Rhubarb, Hooks, Cheese and Mase ...

Evelyn Bay will solve the problem by ... "The March of the Dwarfs" ...

9.50. Suite, "Chelcea China" ... Selection, "Who's Who?" ...

Patrol, "The B'hoys of Tipperary" ... "Public Conversations" ...

10.10. The Scandal mongers. 10.25. The Scandal mongers.

10.40. The Scandal mongers. 10.55. The Scandal mongers.

11.00. The Scandal mongers. 11.15. The Scandal mongers.

11.30. The Scandal mongers. 11.45. The Scandal mongers.

11.55. The Scandal mongers. 12.10. The Scandal mongers.

12.25. The Scandal mongers. 12.40. The Scandal mongers.

12.55. The Scandal mongers. 1.10. The Scandal mongers.

1.25. The Scandal mongers. 1.40. The Scandal mongers.

1.55. The Scandal mongers. 2.10. The Scandal mongers.

2.25. The Scandal mongers. 2.40. The Scandal mongers.

2.55. The Scandal mongers. 3.10. The Scandal mongers.

3.25. The Scandal mongers. 3.40. The Scandal mongers.

3.55. The Scandal mongers. 4.10. The Scandal mongers.

4.25. The Scandal mongers. 4.40. The Scandal mongers.

4.55. The Scandal mongers. 5.10. The Scandal mongers.

5.25. The Scandal mongers. 5.40. The Scandal mongers.

5.55. The Scandal mongers. 6.10. The Scandal mongers.

6.25. The Scandal mongers. 6.40. The Scandal mongers.

WIRELESS PROGRAMME—TUESDAY (Dec. 2nd.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

Carmen H.
 'The Ballad of Semmerwater' *Graham Peet (1)*
 'G. n Days' *Buller (1)*
 'When Daisies Pled' *Kenneth Ellis*
 'Faise Philus' *arr. Lane Wilson (1)*
 'Th' Willow' *arr. Lane Wilson (1)*
 'The Beggar's Song' *Richard Leverage, arr. Lane Wilson (1)*
 Orchestra
 'The Wee Macgregor' *Amara*
 'Pomp and Circumstance,' No. 1 *Elgar (1)*
 Carmen H.
 'Three Fishes' *arr. Box*
 'Oh, Dear! What Can the Matter Be' *arr. Box*
 Kenneth Ellis
 'When Joan's Age was New' *arr. Augustus Burdett (25)*
 'The Arthur' (Dorsetshire Ballad) *arr. J. K. Lees (25)*
 Orchestra
 'The Wee Macgregor' *Amara*
 'Pomp and Circumstance,' No. 1 *Elgar (1)*
 Carmen H.
 'Jack o' Hazard' *arr. Box*
 'Anne Laurie' *arr. Box*
 'There is Nan Luck About the' *arr. Box*
 Kenneth Ellis
 'My Love's an Archer' *arr. Sanford (1)*
 'Drink to Me Only' *arr. W. H. Shaw (1)*
 'The Meeting of the Waters' *arr. Clifton*
 9.30.—WEATHER FORECAST and NEWS.
S.B. from London
 Sir HALFORD MACKINDER. *S.B. from London. Local News*
 10.0.—Dance Music
 10.30.—Close down.

2ZY MANCHESTER. 375 M.

12.30-1.30. Organ Music by H. Fitzroy Page, relayed from the Piccadilly Picture Palace.
 3.30-4.30. Concert by the "2ZY" Quartet.
 4.30-5.0. WOMEN'S HALF HOUR
 5.0-6.0. CHILDREN'S CORNER
 6.30-6.55. Mr. J. Canning Walters, M.A., on 'The Heart of a Book'—(5) Thomas Carlyle and His Idea Heroes.
 7.0. WEATHER FORECAST and NEWS.
S.B. from London
 ARCHIBALD HADDON. *S.B. from London. Local News*
 7.30. Request Night.
 THE "2ZY" ORCHESTRA
 HELEN DE FREY (Soprano).
 JAMES WORSLEY (Entertainer).
 Orchestra
 Overture, "William Tell" *arr. Rossini*
 'Glow Worm' *arr. Linche*
 'The Parade of the Tin Soldiers' *Jensen*
 Selection, "Chu Chin Chow" *Norton (31)*
 Soprano
 Hymn to the Sun ("La Cigale Or") *Emakly-Korakos*
 Entertainer
 'The Adventures of a Stuffed Monkey' *Ben Birdley*
 Orchestra
 'Marched on' *Jarnoff*
 'March for Strings' *Borchers*
 'Salut d'Amour' *arr. J. P.*
 Selection, "Carmen" *arr. H.*
 Soprano
 Modern English Songs
 'The Fields are Full' *Armstrong Gibbs (24)*
 'So Sweet is She' *arr. Edward Darratow (24)*
 'Come, Lovers, Follow Me' *arr. Edward Darratow (24)*
 Entertainer
 'Th' Old Case Clock' *arr. Sam Fidan*
 'The Orderment' *arr. Allan Wright*

Orchestra.
 'In a Monastery Garden' *Ketelby (8)*
 Largo
 9.30. WEATHER FORECAST and NEWS.
S.B. from London
 Sir HALFORD MACKINDER. *S.B. from London. Local News*
 10.0. Orchestra.
 'Four Indian Love Lyrics' *arr. Woodforde Fenden (1)*
 'Melodious Memories' *arr. Finch*
 10.30. Close down.

5NO NEWCASTLE. 400 M.

1.30-12.30. Mary H. Simmes, Esq. Phonograph.
 3.45-4.35. Edna Sheard Contralto.
 'Hail (Tenor), Annie F. Kford' *arr. Box*
 4.45-5.15.—WOMEN'S HALF HOUR
 5.15-6.0. CHILDREN'S CORNER
 6.0-6.30. Scholars' Half Hour
 7.0. WEATHER FORECAST and NEWS.
S.B. from London
 ARCHIBALD HADDON. *S.B. from London. Local News*
 7.30. THE "5NO" ORCHESTRA
 A Rural Play by Bernard G. Hiert
 The Action passes in Jim Watson's farm house, in the village of Carrington on a fine morning in May.
 Produced by G. HODON LEA

THE BAND OF H.M. GRENADIER GUARDS

(By permission of Col. Sergeant Brooke, C.M.G. D.S.O.)
 Director of Music, Lieut. G. MILLER
 MARGARET THACKERAY (Contralto) to LAMBERT HARVEY (Tenor)
 ARTHUR LEWIS (Baritone) } Duetists
 8.0. Band
 Overture, "Carnava. Balthus" *arr. Box*
 Piccolo Solo, Selected
 8.15. Margaret Thackeray
 'A Summer Night' *arr. Thomas*
 'You Are All That Is Lovely' *arr. Thomas*
 Woodforde Fenden
 Coningsby Clarke
 8.20. Band
 'Peer Gynt Suite, No. 1' *arr. Grieg*
 8.40. Lambert Harvey and Arthur Lewis.
 'The Two Beggars' *arr. Lane Wilson (22)*
 'The Bitter' *arr. Thos. Bonheur*
 8.50. Band.
 'The Swan Lake' *arr. Tchaikovsky*
 Margaret Thackeray
 9.5. 'Rose Petals' *arr. Gerald Moon (5)*
 'Down the Burn' *arr. Hock*
 9.15. Band.
 Sixth Rhapsody, "Carnaval in Pesh" *arr. Liszt*
 9.20. Lambert Harvey and Arthur Lewis.
 'Flow Gently, Devo' *arr. John Parry*
 'The Watch' *arr. Williams (25)*
 9.30.—WEATHER FORECAST and NEWS.
S.B. from London
 Sir HALFORD MACKINDER. *S.B. from London. Local News*
 10.0. Band
 'Marche Militaire' *arr. Schubert*
 Cornet Solo, 'My Hero' ('The Chocolate Soldier') *arr. Strauss*
 'The Londonderry Air' *arr. Percy Grainger*
 'Shepherd's Hey' *arr. Dolbeare*
 Selection, "Coppelia" *arr. Dolbeare*
 10.30.—Close down

2BD ABERDEEN. 495 M.

3.30-5.0.—The Wireless Septet, Dorothy Lawrie (Contralto) Female Topics. Mrs. J. W. H. Trail on "Aberdeen and its Ruins."
 5.15-6.0. CHILDREN'S CORNER
 6.40-6.55.—The Rev WALTER A. MURFELL on "Some Victorian Novelists—George MacDonald"

7.0.—WEATHER FORECAST and NEWS.
S.B. from London
 ARCHIBALD HADDON. *S.B. from London. Local News*

Scandinavian Night.

DESSIE JENKINS *arr. Box*
 JOHN VAN ZYL *arr. Box*
 THE "SCANDINAVIAN" ORCHESTRA
 7.30. "Serenade in Symphonic" *arr. Grieg*
 8.0. "Serenade in Symphonic" *arr. Grieg*
 8.15. "Serenade in Symphonic" *arr. Grieg*
 8.30. "Serenade in Symphonic" *arr. Grieg*
 8.45. "Serenade in Symphonic" *arr. Grieg*
 9.0. "Serenade in Symphonic" *arr. Grieg*
 9.15. "Serenade in Symphonic" *arr. Grieg*
 9.30. "Serenade in Symphonic" *arr. Grieg*
 9.45. "Serenade in Symphonic" *arr. Grieg*
 10.0. "Serenade in Symphonic" *arr. Grieg*
 10.15. "Serenade in Symphonic" *arr. Grieg*
 10.30. Close down

5SC GLASGOW. 420 M.

3.30-4.55.—Popular Afternoon
 5.15-6.0. CHILDREN'S CORNER
 6.0-6.5. Weather Forecast for Farmers
 7.0. WEATHER FORECAST and NEWS.
S.B. from London
 ARCHIBALD HADDON. *S.B. from London. Local News*
 7.30. Prof. PATTERSON on "Agriculture"
 Play Night
 THE STATION ORCHESTRA
 Conducted by ISAAC LOSOWSKY
 7.45. "Ballet Suite, "Fireflies" *arr. M. Sving*
 Intermezzo, "Down Vauxhall Way" *arr. M. Sving*
 8.5. "THAT BRITISH SIMMONS"
 A Play in One Act.
 By Arthur Morrison and Herbert C. Sargent.
 Produced by GEORGE ROSS and "5SC'S"
 REPERTORY COMPANY
 8.30. Orchestra
 Ballet from "The Pantomime" *arr. N. O'Neill*
 Symphonic Intermezzo *arr. Borch*
 8.50. THE SCOTTISH ORCHESTRA.
 Conducted by FELIX WEINMARTNER.
 Relayed from St. Andrew's Hall
S.B. to Edinburgh, Dundee and Belfast
 Symphony No. 9, "Choral" *arr. Beethoven*
 9.55.—WEATHER FORECAST and NEWS.
S.B. to Belfast, Edinburgh and Dundee
 10.5.—Prof. R. S. RAIT, C.B.E., LL.D., on "History." *S.B. to Edinburgh*
 10.20.—Local News.
 10.25.—Close down

A number against a musical item indicates the source of its publisher. A key list of publishers will be found on page 448.

THE CHILDREN'S CORNER. CONDUCTED BY THE AUNTS AND UNCLES.

Some Clever Little Broadcasters.

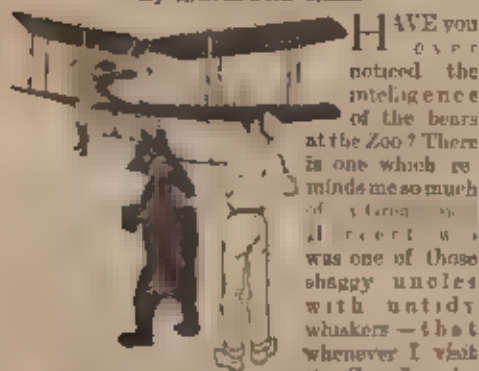


AT THE LONDON STUDIO.

Here you see some clever young people who are going to broadcast next week. Their names are as follows. In the top row, reading from left to right, Lance White, aged 8, reciting on Friday; Stella Freeman, aged 14, reciting on Wednesday; Dorcas Wood, aged 14, playing the piano on Saturday; Eric Sumro, aged 13, singing on Tuesday. Second row: Carmelita Lawless, aged 15, playing the piano on Friday; Betty Hyman, aged 12, singing on Wednesday. Third row: Mary Locke, aged 14, playing the piano on Monday; Hylda Davy, aged 11, reciting on Tuesday; Sydney Smith, aged 15, singing on Thursday; Nettie Vallance, aged 14, playing the piano and violin on Thursday; Winnet Harding, aged 15, reciting on Saturday; Thelma Hughes, aged 6, reciting on Monday.

THE FLYING BEAR.

By LANGFORD REED



Tatiana travelled by aeroplane. I longed upon him to pay my respects. He knows me now, and looks at me as if he would like to give me a good, affectionate hug. But perhaps it is as well he cannot, for it might not be of the usual kind.

Avuncular means with reference to an uncle, though you'd never think so to look at it, for it seems as if it ought to have something to do with the position of things, like perpendicular.

However, when you next write to your uncle, if you address him as "My Dear Avuncular Relation," you will be quite correct, though he will, probably, be greatly surprised.

But to return to the bear. He's a busy old

fellow, and when he's not feeding, or helping his amiable wife wash the youngsters, or sleeping, he employs himself by walking up and down, which he can do both ways.

If this sounds confusing, perhaps this quaint limerick, which I came across the other day, may make it clear—

There was an old bear at the Zoo
Who loved having something to do
When it tired him, you know,
To walk to and fro
He reversed it and walked fro and to.

Talking about intelligent bears, a few months ago a bright little bear actually had a ride in an aeroplane, and, what is more, enjoyed it. The name of this fortunate youngster is Tatiana, which is rather like that of Titania, the Queen of the Fairies, but it's the only fairy-like thing about her.

She had to travel from Moscow in Russia, to Berlin, the capital of Germany, where she is now living at the Berlin Zoo, and as there was not a good service of trains, and it was rather too far to walk, an aeroplane was placed at her disposal.

At first, she thought she might be too heavy, but rejoiced, exceedingly, when the pilot said,—

Be not afraid, your size I can never fear.

Tatiana enjoyed the trip immensely and got on splendidly with the pilot, which was a very good thing, for it is much more dangerous to

fall out during an aeroplane ride than it is when on the ground.

She has been in her new home some months now. There is a bear-pit there, as in the London Zoo, but however high the other bears climb, she will be able to boast that no bear has ever been so high in the world as she. But I hope she will not boast about it too much, for that would be unbearable. And I am sorry she is not at the London Zoo, for then you would have been able to see her.

However you can see the other bear I told you about, the one resembling my Great Uncle Herder.

If you make a noise like a henbow or a crow and throw him a bun, with plenty of crumbs in it, he'll be awfully pleased to see you.

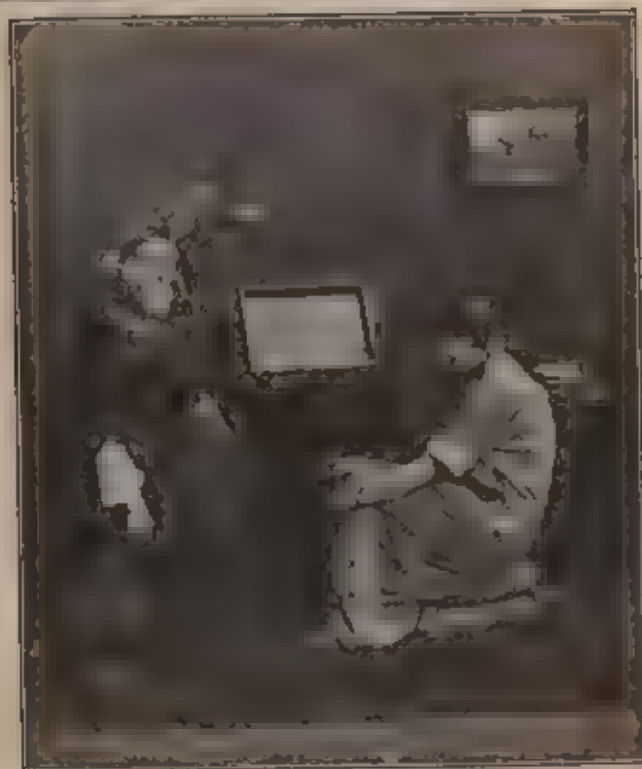
JOLLY BOOKS FOR CHRISTMAS.

No Christmas stocking is complete without at least one book, and two of this year's favourites will be "Hallo Boys!" and "Hallo Girls," the jolly annuals which the "Aunties" and "Uncles" have written. They are full of pictures and stories, and only cost three shillings each.

They are published by Fred Palmer, who calls our attention to an error in "Hallo Girls." The contribution of Auntie Cyclone, of Glasgow, has been attributed to Auntie Sheila. The name applies to the portrait of Auntie Cyclone. So remember this when you are reading "Hallo Girls!"

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The Broken-Hearted Composer.

The Story of Bizet's "Carmen."

AMONG the men whose memory is kept green by one achievement must be numbered Georges Bizet. For, though unlike "Sole speech Hamilton" and "Our book No. 1," he did not exhaust himself in a flight, but kept at a high level of production for years, practically his only known work in *Carmen*.

Carmen is based on one of the best known novels of Prosper Mérimée, and it reached its final form after much travail by its composer. It became as we know it largely through the exactingness of Galli-Marié, the original *Carmen*.

An Exacting Prima-Donna.

Innumerable were the alterations made in her part to suit her fastidious tastes. Two songs for her—one in the card-playing scene in the mountains, and the other in the last act, just before her death—had to be cut out altogether; and she virtually insisted upon scores of substitutions—a new song here, a fresh bit of "business" there and so on.

At the outset, there was a song for her entrance in the first act. As she did not approve of it, the composer supplied another, which also was rejected. A third song met with the same fate; and so things went on.

Finally, she asked for something that would produce a great effect, whereupon Bizet, tired though he was, wrote the *Habañera*, an arrangement of a Spanish air that he had come across some time before.

The composer's troubles at rehearsals were intensified by the derision of the manager of the house—the *Opéra Comique*, Paris—who, though he mounted the work splendidly, told everybody that the music was "Cochin-Chinese," and declared that he did not understand it.

The Slow March to Success.

Poor Bizet was consequently in a despondent mood when, on March 3rd, 1875, the curtain first rose on *Carmen*, and as the evening wore on, nothing occurred to brighten his spirits. The *Habañera* was certainly applauded frantically, the Toreador song—which the critics subsequently styled "banal"—also got a good reception, and several of the other numbers were more or less successful. But the opera, as a whole, was a failure, and it was with a heavy heart that Bizet left the theatre. Plunging into the night, he walked about Paris at random, not knowing or caring where he went, till the dawn.

Further acquaintance with *Carmen* did not make the public like it any better, and after only thirty-seven representations it was withdrawn. Not until a year later, when it was met with greater appreciation. Exactly three months after the first representation he died, his end hastened, perhaps, by the failure of his most ambitious work.

Strange as it is that *Carmen*, on its introduction, was received with apathy, it is still more so that for years its merits were not adequately appreciated anywhere, except in Germany. It was only in 1884, when it was first performed in October, 1876; but, after only thirteen

representations—"unlucky" number—it was again withdrawn. In this country it was at least successful. For a long time, like Shakespeare, it "spelt failure," and only by the perseverance of managers, who, not from any love of art, but from a desire fully to exploit a work which they believed had great commercial possibilities, put it on the stage again and again, did the public recognize its dramatic and musical charms.

But by degrees it gained popularity, and ultimately those who had had the foresight to acquire performing rights, made fortunes out of them. About 1888, Sir Augustus Harris bought the English rights for £1,500, and this speculation brought him a profit of £30,000.

The heated success of *Carmen* in this country was due in large part to Mapleson, who produced it at Her Majesty's Theatre after difficulties which had seemed insurmountable. Campanini, returned the part of Don José, stating that he could not think of undertaking it, as there was no romance in it, and the only love duet was one

would put on *Carmen*, and invited them to hear it as his guests, adding that their money would be returned on presentation of their tickets.

A free representation of Bizet's opera, with Trebelli in the principal part, was accordingly given, and, by common consent, it was brilliantly successful. In accordance with Mapleson's promise, moreover, the money received for the tickets for *Faust* was duly refunded.

Ingenious Advertising.

Perhaps, however, nothing did more to start *Carmen* on its career of prosperity than the way it was "boomed" by Mapleson and other managers. One device they resorted to was to scatter small advertisements, ostensibly from private persons, among the London newspapers, offering for sale "two tickets for *Carmen*" for Wednesday or some other night, thus conveying the impression that there was a tremendous demand for seats to hear the opera.

T. W. WILKINSON.

["*Carmen*" will be broadcast on Monday, December 1st, and S.B. to all Stations, except Belfast. The following Synopsis will enable listeners to follow the opera act by act.]

ACT I.

THE square in Seville is alive with people—troopers and townfolk—and more colour is added to the already gay scene by the cigarette girls who work in a factory close by. Carmen, a dark Spanish gypsy beauty, fearless, passionate, and sickle, also employed at the factory enters the square and makes love to Don José, but her advances are repelled as José is infatuated with Micaela, to whom he speaks when the cigarette girls return to work.

All at once, however, there is great commotion in the square as Carmen in an impetuous moment has stabbed a fellow-worker, and it falls to José's lot to arrest her, but he succumbs to her attractions and allows her to escape.

ACT II.

Carmen escapes to Pastia's tavern, where she is attracted by Escamillo, a bull-fighter. She cannot, however, forget José, who comes to see her after his release from prison, when the tavern is closed. At the request of smugglers she makes him desert, and lures him to the mountains as a recruit for the band.

ACT III.

In the mountain pass Carmen soon tires of José, preferring the more adventurous Escamillo. The band decide that the moment has come for the conveyance of their contraband through the pass, and Don José is posted on a rocky promontory to prevent any possible attack from the rear. Micaela visits the pass to speak with José, but seeing him fire at an approaching figure she is frightened and hides. The other visitors turn out to be Escamillo, visiting Carmen. The two lovers then fight and Escamillo is beaten. Unruffled, he leaves the camp, inviting all to attend his next bull-fight in Seville.

ACT IV.

It is the day of the bull-fight in Seville. Escamillo is the hero of the hour and Carmen awaits outside the arena for his return.

Don José, however, in a frenzy of jealousy stabs her in the back. Escamillo returns to find Carmen dead.



The fight between Escamillo and Don José.

with the second lady. No less scornful was Del Puente, the baritone, who said that the part of Escamillo must have been intended for one of the chorus, and that he declined it. Mine-Vallona also threw up her part, suggesting that it should be given to one of the chorus.

Eventually, Mapleson persuaded the malcontents to attend a general rehearsal, when they all began to take a great fancy to the roles which had been assigned to them. The rest was easy. Mapleson talked them round, and the result was a great success. Campanini subsequently became famous as Don José.

Afterwards the astute manager gave a performance of *Carmen* under curious conditions. On a night when Adeuni Patti was announced to sing in *Faust* an intimation was received from her that she could not fulfil her engagement. People were then streaming into Her Majesty's, and, as Mapleson did not want to turn them away and close the theatre—for already there had been several disappointments during the season through the inability of singers to appear—he informed them that he

Music and Noise—The Difference.

The Wonder of Sound Waves. By Sir WILLIAM BRAGG, F.R.S.*

CERTAIN sounds and certain successions of sounds are very pleasing to us. That which was in the first place a means of obtaining and communicating intelligence has become subsequently, as we may suppose, a means of giving pleasure through our sense of music.

If we ask ourselves what it is that makes the difference between a sound in its most general form and that particular kind of sound which we call music, we need not be very long in arriving at an answer. We find that the musical sound consists of tremors that succeed one another with perfect regularity, as the waves of the open sea appear to do when one looks down upon them from a height. But a mere rise would correspond rather to the tossing of the waters in the rapids of a river, where no regularity is to be seen. We find, too, that whenever we hear a regular disturbance of this sort, we can assign a pitch to the corresponding sound. It does not matter in the least how the tremors in the air are caused; all that is necessary is that they shall be repeated regularly and with proper frequency.

Pulses in the Air.

Suppose I were to wave my hand in front of a microphone. In doing so, I should start a pulse in the air which would sweep over the microphone and through the room; neither you nor I would hear anything, however.

Suppose I were to repeat the wave of my hand at regular intervals, the pulses in the air would succeed one another with equal regularity, and we should be reaching one of the conditions essential to the making of musical sound of definite pitch. It would still, however, be inaudible as such, because the pulses do not succeed one another with sufficient frequency. I simply cannot move my hand fast enough; it would have to be moved about twenty times a second. If that could be done, your ears would hear a deep booming note, very loud indeed if the wave of the hand were anything like as big as we should naturally picture it. And if I could wave my hand faster and faster still, the note would steadily rise in pitch, as we say.

The Secret of the Tuning-Fork.

Of course, I cannot move my hand fast enough; but it is easy to find something else which will wave to and fro sufficiently fast. I have a tuning-fork mounted on a box of proper size. When I draw the bow of a 'cello across the prongs of the fork, it sounds loudly. What is happening is that the prongs swing in and out, towards and away from each other, and they keep it up for a long time. At each swing a pulse runs away into the air, and it is because these pulses succeed one another so regularly and at such an unchanging rate that the note is so steady and fades only slowly away.

Our Musical Cravings.

The note has a certain pitch, of course; it is nearly that of the middle B on the piano. The important point is that it has a pitch because the number of pulses which it sends out into the air every second is quite definite; as a matter of fact, it is 256. It is also most important to realize that the particular pitch which we recognize is always connected with that number.

Think of any way you please, no matter how fantastic, by which pulses can be given in regular succession to the air, and you have a source of sound of a definite pitch. If I could only wave my hand 256 times a second, you would hear the note of the fork.

When, therefore, we look round for convenient means of producing sounds of definite

pitch, in order to satisfy our craving to make music, we look, in fact, for objects which we can set into vibration, which will keep up the movement for a satisfactory time and will at each vibration send out a satisfactorily large pulse into the air. Of all possible means mankind has by common consent chosen two as the most suitable: they are the stretched string and the column of air.

Almost Silent Strings.

When a string is stretched tightly, it vibrates to and fro if plucked to one side, as in the harp and lyre, and also when the bow is drawn across it, as in the violin. It is too thin in itself to cause much disturbance; when we listen to a stringed instrument it is not the strings themselves that we hear directly, but the sounding board on which they are mounted. The vibration of the string of the violin is communicated to the body, and this being a broad surface, launches out a sufficient pulsation.

If a string is hung from a stout bracket fastened to a wall, and is loaded with a heavy weight, it can be made to vibrate, but it will give out little sound. It is because the body of the violin gives the pulses to the air, and because its form and nature affect the quality of the vibrations, which really come from the string, that the body must be made most carefully, and a first-class violin is a great treasure.

The Ear's Choice.

The note of the string goes up in pitch if it is stretched more tightly, or if it is shortened, which possibilities give a wide range to its use. The violin player uses the first method of altering the note when he tunes his instrument, and the second when he plays on it.

The column of air in the organ pipe, or flute, is set into vibration by blowing across the mouth: the exact manner in which this blowing succeeds in its purpose is a little too long to discuss now. The main point is that as the air in the tube vibrates it pours in and out of an open end of the tube, and each time it does so it sets off a pulse into the air.

Now, suppose we have found out how to make sounds that are of definite pitch, that we have decided to use strings, or pipes of some kind, or it may be some other convenient mechanism, what is the next point to be considered? How many strings do we want, and what shall be their pitch?

Combining the Notes.

We ourselves, in common with many other European nations, have decided that we like a combination made up in the following way. We take a note of given pitch as starting point: it is the keynote. We take another note of higher pitch, which we call the octave, what that note is, is a matter of ear. You cannot describe it to anyone; you can merely say: "This is what I mean by an octave."

Having, let us say, fitted two strings into the instrument we are making, and tuned them so as to be the octave of each other, we then put in six more strings between these two, of intermediate pitch. These also are chosen by ear: one can only say in the first place, this is our practice, this is what we like. We then add higher and lower octaves to our satisfaction.

Now, we saw that a note of given pitch is a note produced in the ear by the receipt of a certain number of pulses every second, which we may call the vibration number. The first tuning fork which we used gave 256 pulses a second, the number is easily determined by methods which are commonly to be found in a physical laboratory. When we measure in the

same way the vibration number of all the other notes we have chosen, by ear, for our scale, we are across a very famous and interesting set of rules. In the first place, the upper note of the pair which we say are an octave apart has a vibration number exactly twice that of the lower; this is true of any such pair, not merely of the two tuning forks we have already used.

And similarly numerical relations hold for all the other notes. For instance, the interval which musicians call the fifth requires the upper note to have a vibration number half as large again as that of the lower. If the lower is 256, the upper is 384. I have tuning-forks giving both these numbers, and when I sound them together you will recognize that they stand to one another as C to G in the scale of C. Another of the notes which we demand by ear is found to have a quarter as many more vibrations to the second as the fundamental. I have that also, and when I sound all the four forks I have mentioned, we have the major chord.

The Singing Organ.

I have also another device for showing three number relations. It is a small electric motor on the axis of which are mounted a number of cogged wheels in a row. When I press a card against the cogs of one of the revolving wheels, it flaps from tooth to tooth and you hear a harsh note, the pitch of which is determined by the number of teeth that hit the card in a second. The numbers of teeth on the wheels are proportional to the vibration numbers of the notes of the scale. So when I put the card to the wheels in turn, the sound goes up the scale. It does not matter how fast the motor goes, the notes are always in the right relation to each other, no matter how much they change in absolute pitch.

Rules that are Disobeyed.

Although the various notes of our scale can be defined as perfectly, we do not obey the rules exactly. In fact, we deliberately disobey them, so that it may just be said that the piano and other keyed instruments are never in tune. This is because music, especially modern music, demands that it shall be possible to play in many different keys on the same instrument, and we have to make the same notes play many parts. It is impossible to make them do so exactly, because the laws of arithmetic forbid it, and we have to overlook the consequent errors. Many of us do not possess ears that can distinguish the errors, which are small, and others who are more musical have become accustomed to them. But it is easy to show the necessary existence of the error, both by theory and in practice.

Instruments Never in Tune.

As regards the former, let us take the note 256 and call it C. The rule of the scales tells us that the next note, D, should then have a vibration number larger by one eighth of 256, that is 256—32, or 288. Now suppose we want to make D the key note, as we often do. Then the next note, E, should have a vibration larger than 288 by one eighth of 288, i.e., by 36. So the vibration number of E should be 324.

But regarding E as the major third of C, its vibration number should be one quarter more than 256, the vibration number of C; this is the proper rule. Now one quarter of 256 is 64, and so E, if it is the third note from C, should have the vibration number 256—64, or 320; whereas, if it is regarded as the second note from D, it should be 324, and we cannot satisfy both requirements. We solve the problem in practice by a system of splitting differences, which means that keyed instruments are never quite in tune.

* A Talk from the London Station



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1.0-5.30.—*Programme S.B. from London.*
8.30-9.0.—*The Very Rev. J. N OGILVIE, D.D.,* Conventor of the Church of Scotland and Foreign Mission Committee; Religious Address. Hymns by the Choir.
9.6-10.40.—*Programme S.B. from London.*

MONDAY, December 1st
3.0-4.9.—*The S. S. S. Programme.*
5.4-6.5.—*CHILDREN'S CORNER.*
7.0-7.15.—*Programme S.B. from London.*
7.15-7.30.—*Mr JAMES PATTERSON, R.S.A., P.R.S.W., R.W.E.,* on "Appreciation in Art" (4). Local News.
7.30.—*"CARMEN" S.B. from London.*
9.30.—*WEATHER FORECAST and NEWS S.B. from London.*
Prof. ALEXANDER FINDLAY. S.B. from Aberdeen. Local News.
10.0-11.0.—*THE SAVOY BANDS. S.B. from London.*

TUESDAY, December 2nd.
3.0-4.0.—*The S. S. S. Programme.*
5.0-6.0.—*CHILDREN'S CORNER.*
6.40-6.55.—*Mr H. Mortimer Batten, F.Z.S., "The Life-Story of a Pike" (1).*
7.0-8.50.—*Programme S.B. from London.*
9.50-10.25.—*Programme S.B. from Glasgow.*

WEDNESDAY, December 3rd.
3.0-3.30.—*Talk to Country Schoolers. Mr. J. C. SMITH M.A. (F.R.S.E.)* Board of Education. Great Success in the West.

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"Come Thro' the Rye," } ... 134
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8 20. Scots Reading
Saunders Mr. Graham's Courtship " Anon.
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9 1 [illegible]
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Baritone Song Is Like a Flea?

My Love is Like a Rose, 1840.
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 "Jock o' Hazeldean" G. I. V. F. and 2
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 Mr. F. H. F. N. M. L. N. S. B. from Lon
 do. L. L. N. News.
 10.0. Pipers.
 10.10. Scots Reading.
 Wee Johnnie Paterson "W. G. Stevenson
 10.30. Pipers
 March, "Drunkin Piper."
 Strathgroy, "Maggie Cameron.

7 40. "O Fatal Gift" ("Don Carlos") .. Verdi
Jean Martel.
7 40. Reginald Whitehead.
Within These Sacred Bowers" ("The
Magir Plot") .. Mozart
The Call of Gold ("Frustr") .. Gounod
S.O.—Mr. GEORGE MACDONALD, C.B.
LL.D., F.R.S., on "The Romans in
Scotland" (5).
8 13. Jean Martel.
Evening Song" .. Schumann
F. Liszt .. Faust
La Cygne .. Saint Saens
"Swedish Dance" .. Beethoven

11 May 10 1. 74

al, "The Winds that Shake the Barley."
Close down.

8.30.—PROF. D. F. TOVEY, Mus. Doc., of the University of Edinburgh, on "The Genius of Mozart," with Illustrations.
(Continued in col. 2.)



Learn the joys of exploring

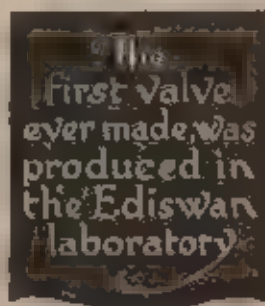
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8.30-10.40. } Programmes S.B. from London.

MONDAY, December 1st, and WEDNESDAY, December 3rd

3.0-3.30. } Robert A. Jackson and his Orchestra.

4.0-4.30. } WOMEN'S HALF HOUR.

5.0-5.15. } CHILDREN'S CORNER.

6.45. } Boy Scouts' Talk. Dec 3rd

7.0-11.0. } Programmes S.B. from London

TUESDAY, December 2nd, THURSDAY, December 4th, and SATURDAY, December 6th.

3.0-3.30. } Claude Rieu & his Dance Orchestra

4.0-4.30. } relayed from the City. Dec 2nd

5.30-6.0. } WOMEN'S HALF HOUR

6.0-6.15. } CHILDREN'S CORNER

7.0 onwards. } Programmes S.B. from London.

FRIDAY, December 5th.

3.0-3.30. } Robert A. Jackson and his Orchestra.

4.0-4.30. } WOMEN'S HALF HOUR

5.0-5.15. } CHILDREN'S CORNER.

7.0. } WEATHER FORECAST and NEWS.

S.B. from London.

G. A. ATKINSON. } S.B. from London

Local News

Wolfgang Amadeus Mozart.

Don Giovanni. } 1st Act. 1st Performance

12.0-12.15. } Supper

12.15-12.30. } 1st Act. 2nd Performance

12.30-12.45. } 1st Act. 3rd Performance

12.45-1.0. } 1st Act. 4th Performance

1.0-1.15. } 1st Act. 5th Performance

1.15-1.30. } 1st Act. 6th Performance

1.30-1.45. } 1st Act. 7th Performance

1.45-2.0. } 1st Act. 8th Performance

2.0-2.15. } 1st Act. 9th Performance

2.15-2.30. } 1st Act. 10th Performance

2.30-2.45. } 1st Act. 11th Performance

2.45-3.0. } 1st Act. 12th Performance

3.0-3.15. } 1st Act. 13th Performance

3.15-3.30. } 1st Act. 14th Performance

3.30-3.45. } 1st Act. 15th Performance

3.45-4.0. } 1st Act. 16th Performance

4.0-4.15. } 1st Act. 17th Performance

4.15-4.30. } 1st Act. 18th Performance

4.30-4.45. } 1st Act. 19th Performance

4.45-5.0. } 1st Act. 20th Performance

5.0-5.15. } 1st Act. 21st Performance

5.15-5.30. } 1st Act. 22nd Performance

5.30-5.45. } 1st Act. 23rd Performance

5.45-6.0. } 1st Act. 24th Performance

6.0-6.15. } 1st Act. 25th Performance

6.15-6.30. } 1st Act. 26th Performance

6.30-6.45. } 1st Act. 27th Performance

6.45-7.0. } 1st Act. 28th Performance

7.0-7.15. } 1st Act. 29th Performance

7.15-7.30. } 1st Act. 30th Performance

7.30-7.45. } 1st Act. 31st Performance

7.45-8.0. } 1st Act. 32nd Performance

8.0-8.15. } 1st Act. 33rd Performance

8.15-8.30. } 1st Act. 34th Performance

8.30-8.45. } 1st Act. 35th Performance

8.45-9.0. } 1st Act. 36th Performance

9.0-9.15. } 1st Act. 37th Performance

9.15-9.30. } 1st Act. 38th Performance

9.30-9.45. } 1st Act. 39th Performance

9.45-10.0. } 1st Act. 40th Performance

10.0-10.15. } 1st Act. 41st Performance

10.15-10.30. } 1st Act. 42nd Performance

10.30-10.45. } 1st Act. 43rd Performance

10.45-11.0. } 1st Act. 44th Performance

11.0-11.15. } 1st Act. 45th Performance

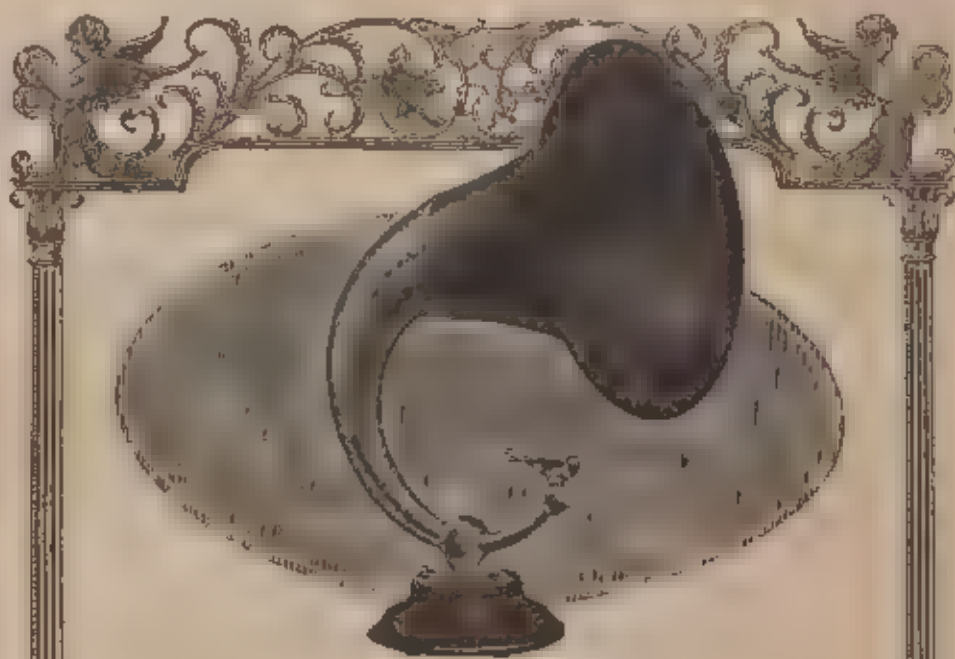
11.15-11.30. } 1st Act. 46th Performance

11.30-11.45. } 1st Act. 47th Performance

11.45-12.0. } 1st Act. 48th Performance

12.0-12.15. } 1st Act. 49th Performance

12.15-12.30. } 1st Act. 50th Performance



The New Brown Type Q

WHILE to many the Brown Type H1 (or the smaller H2) fulfils all the requirements for a Loud Speaker with unapproachable purity and volume at a moderate price, yet there are quite a number of Wireless enthusiasts who are desirous of a more luxurious instrument quite irrespective of initial cost.

For their benefit, therefore, we are now introducing the BROWN Type Q—the Loud Speaker de Luxe—undoubtedly the last word in Loud Speaker design. Of pleasing proportions and symmetrical shape it incorporates a number of entirely new features. For instance, its two-piece sound conduit is a massive aluminium casting, combined with a mahogany floor. Both are highly polished—the latter being turned by hand by skilled wood craftsmen. Not only

is the new BROWN horn most beautiful to the eye, but its smoothness and scientifically correct design is responsible for an even greater volume without the slightest trace of harshness. A good Loud Speaker—like a piano—is an investment which can give much pleasure. Therefore, choose the best you can afford. The BROWN Q type Loud Speaker is supplied in resistances of 120 ohms and 4,000 ohms at £15 15 0 the price of

S. G. BROWN, Ltd., Victoria Road, North Acton, W.2.

Showrooms:

19, Mortimer St., W.1, 15, Moorfields, Liverpool;

67, High St., Southampton.

Brown

Delightful Wireless Evenings



always assured
when using
WECOVALVES

The delights of wireless reception are often entirely spoiled by inferior valves, and if this is so in your case there is only one remedy. Fit Wecovalves. Wecovalves are manufactured by the Western Electric Company, Ltd., and are celebrated for their silence

in operation, extreme sensitivity and economy. The current consumption is extremely small, 0.8 to 1.1 volts at 25 amperes, making the Wecovalve the premier dry cell valve of the day. Ask your dealer for particulars.

Price - - - 25/-

Western Electric Company Limited

Cannought House, Aldwych, London, W.C.2. Central 7345 (9 Lines).
Branches: Birmingham, Leeds, Manchester, Newcastle, Glasgow, Cardiff,
Southampton, Liverpool, Dublin.

Leeds-Bradford Programme.

2LS 346-310 M.

Week Beginning Sunday, November 30th.

SUNDAY, November 30th.

7.0-7.30 Program S.B. from London.

MONDAY, December 1st, and SATURDAY, December 6th

7.45-8.00 The Ten under the Tree
of Mary
C. H. JONES, TURNER
7.0 onwards.—Programme S.B. from London

TUESDAY, Dec 2nd, and THURSDAY, Dec. 4th.
7.45-8.00 The Ten under the Tree
of Mary
C. H. JONES, TURNER
8.0-8.15 The Ten under the Tree
of Mary
C. H. JONES, TURNER

7.0-10.30.—Programme S.B. from London.

WEDNESDAY, December 3rd.

7.30-8.00 Hershey Hunt and his Orchestra
relayed from the Tower Picture House,
London.

7.45-8.00 CHILDREN'S CORNER
Programme S.B. from London.

FRIDAY, December 5th

7.30-8.00 The Ten under the Tree
of Mary
C. H. JONES, TURNER
8.0-8.15 WEATHER FORECAST and NEWS
S.B. from London.

7.45-8.00 THE "SPL" LIGHT ORCHESTRA
relayed from the Tower Picture House,
London.
8.0-8.15 THE "SPL" LIGHT ORCHESTRA
relayed from the Tower Picture House,
London.
8.15-8.30 THE "SPL" LIGHT ORCHESTRA
relayed from the Tower Picture House,
London.
8.30-8.45 THE "SPL" LIGHT ORCHESTRA
relayed from the Tower Picture House,
London.
8.45-9.00 THE "SPL" LIGHT ORCHESTRA
relayed from the Tower Picture House,
London.

7.30-8.00 March, 'London S.B. from London.

7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER

7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER

7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER

7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER

7.45-8.00 I Love to Rhyme
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7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER

7.45-8.00 I Love to Rhyme
with you
L. H. JONES, TURNER



Home to those Wonderful Mullard Valves

The rain and biting wind seem to lose their power when you think of the happy evening before your cosy fire with a perfect wireless concert.

Those Mullard H.F. and L.F. valves make such a wonderful difference. You could almost thank them for the splendid enjoyment they give.

You are going back to all that makes life worth living: a welcome meal, your armchair, your pipe, and then the pure joy of broadcasting concerts.

If you have not yet experienced the wonderful difference these Master valves make in your radio reception, purchase them on your way home to-day and complete the pleasure of your winter nights.

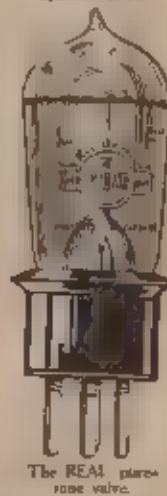
Mullard H.F. Red Ring Valves for—
H.F. AMPLIFICATION AND DETECTION, 12/6 each.

Mullard L.F. Green Ring Valves for—
L.F. AMPLIFICATION - - - 12/6 each.

Ask your dealer for leaflet M8 and avoid accidents to your valves by using the Mullard Safety Disc, free on request.



The REAL long-diameter valve.

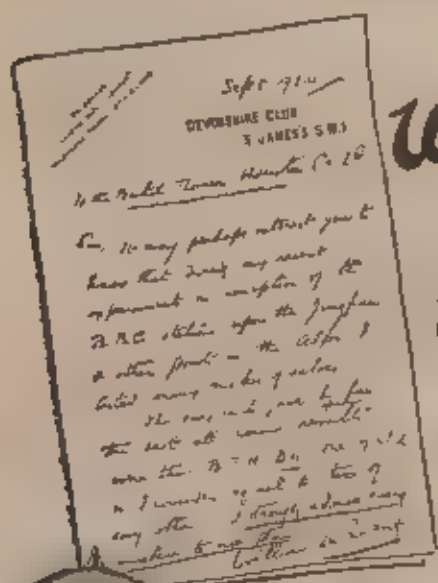


The REAL pure-tone valve.

Mullard

Obtainable from all Electricians, Wireless Dealers, Ironmongers, etc. etc.

Advertisement—The Mullard Radio Valve Co., Ltd. (S.T.),
Nightingale Works, Nightingale Lane, Balham, S.W.12.



What Mr William
Le Queux
thinks of the
B.T.H.



B4 Valve

6 Volts—0.25 Amps

MR. WILLIAM LE QUEUX the famous novelist and wireless experimenter, as the result of his Jungfrau experiments, has proved the superiority of the B.T.H. B4 Valve—the supreme valve for use as a low frequency power amplifier.

Price - 35/-

Obtainable from all B.T.H. and Radio Dealers

The British Thomson-Houston Co. Ltd.
Works, Coventry. Offices, Crown House, Aldwych, W.C.2
Branches at: Belfast, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Swansea, Sheffield



Dear Sir,

I am, I may perhaps attract you to know that during my recent experiments in connection of the B.T.H. station upon the Jungfrau & other points - the B.T.H. B4 valve has been used and has given the best results. I have not yet had time to write you more fully but I am sure you will be interested to hear of my other experiments in connection with the B.T.H. B4 valve.

Yours faithfully,
WILLIAM LE QUEUX

WILLIAM LE QUEUX



2234 A



Headphones



B.T.H. Headphones are supreme in all respects—in sensitiveness, tone, permanence, and comfort. Although fitting closely to the ears and thus excluding extraneous sounds, very little pressure is exerted and they can be worn for hours without discomfort.

Price per pair (4000 ohms) - £1 5s. 0d.

A PROOF OF SUPERIORITY

Ask your dealer to tune up his demonstration set and you can only just hear. Then substitute B.T.H. Headphones and you will be amazed at the clearness with which you can hear every word and note of music.

We also make Crystal Sets, Valve Crystal Sets, Valve Sets, Loud Speakers, Amplifiers, Valves (including H5-0.06 amps) and Tungar Battery Charger.

Obtainable from all Electricians & Wireless Dealers

The British Thomson-Houston Co Ltd

Offices, Crown House, Aldwych, London, W.C.2

Branches at: Belfast, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Swansea, Sheffield

Liverpool Programme.

6LV 315 M.

Week Beginning Sunday, November 30th.

SUNDAY, November 30th.

10.40. Programme S.B. from London.
11.30. Programme S.B. from London.

MONDAY, December 1st

11.30-4.30. The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-11.0. Programme S.B. from London.

TUESDAY, December 2nd.

11.30-12.30. Mulday Concert.
The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-10.30. Programme S.B. from London.

WEDNESDAY, December 3rd.

11.30-4.30. The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-10.30. Programme S.B. from London.

THURSDAY, December 4th

11.30-4.30. The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-10.30. Programme S.B. from London.

FRIDAY, December 5th

11.30-12.30. Educational Transmissions to Schools.
1.30-4.30. The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-10.30. Programme S.B. from London.

Liverpool Composers' Night.

ALICE VAUGHAN (Contralto)

STANLEY VAUGHAN (Pianoforte)
THE LIVERPOOL SYMPHONY ORCHESTRA

Under the Direction of GORDON E. STUTTELY

7.30. Comedy Overture by Alfred Sutton
7.40. Contralto Song

"When I Grow Old" Frederick N. Brown
"Ask Me No More" Frederick N. Brown

7.50. DOUGLAS MILLER (Soprano) and Orchestra
Pianoforte Concerto by Douglas Miller

8.10. Contralto Song
(With String Quartet Accompaniment)

"Once and There Was a Young Sailor"
"She is My Favorite"
"Daddy's Little Girl"

8.20. Solo Violin by FRED BROWN
Contralto Song

"A Song of the Rose" (Song in Sun and Song in Moon)

"Tears, Idle Tears" (Love Song) Frederick N. Brown
"O Swallow" (Song of Tennyson) Nicholas

8.45. Stanbury and Barry.
In Original Song and Humour

Song, "The Joy of Life" Frederick N. Brown

9.0. WEATHER FORECAST and NEWS.
S.B. from London.

9.10. Song of Asato
"I Heard a Piper" Norman Peterson
"The Gallant"

10.10. Orchestra
Song, "The Open Road" Frederick N. Brown

SATURDAY, December 6th.

11.30-4.30. The "State Brighter Liverpool" Band, relayed from the State Aid.
7.0-10.30. Programme S.B. from London.



Louden



The Secret

10/-

Magicians and Sorcerers had their "Secrets of Healing," and "Secrets of Success," which they would dispense for a consideration, but in these less romantic times success is more apt to be won on sheer merit.

Take the case of the Louden Valve. Four months ago it was unheard of—to-day there are thousands of enthusiastic "slaves of the lamp" who will never go back to the old type of valve. Why? Well, because however you consider the Louden Valve it is a sound investment.

It costs only ten shillings. It takes so little current that your accumulators will last twice as long as they do with ordinary bright filament valves, and, in spite of the fact that the anode is "full of holes," volume is, if anything, above the normal, showing that a full use is made of the electron stream.

It is the unwanted charges that escape through the turns of the anode, and strangely enough this is precisely what we intend to happen.

It gives a silver clear reproduction which is the delight of all who have heard it, and the life of the filament is exceptionally long.

So naturally the Louden is outstripping all other valves in popularity.

There is no secret—only merit.



FELLOWS WIRELESS

Louden Valves - Silver Clear

ADVT. OF THE FELLOWS WIRELESS CO. LTD. LONDON, E.C.4.

Nottingham Programme.

5NG 322 M.

Week Beginning Sunday, November 30th.

SUNDAY, November 30th

3.0-5.30 CHILDREN'S CORNER S.B. from London

5.30-9.0. The Rt. Rev. The LORD BISHOP OF WINCHESTER, S.E. from Bourne mouth

9.0-10.40.—Programme S.B. from London

MONDAY, Dec. 1st and THURSDAY, Dec. 4th.

3.30-4.30. Scala Picture Theatre Orchestra.

6.15-6.30.—CHILDREN'S CORNER.

6.40-6.55.—Teens' Corner (Dec. 4th)

7.0 onwards.—Programme S.B. from London.

TUESDAY, Dec. 2nd & WEDNESDAY, Dec. 3rd.

11.30-12.30.—Gramophone Records (Dec. 3rd)

3.30-4.30. Lyons Café Orchestra: Conductor, Orchestral

5.15-5.30 CHILDREN'S CORNER.

6.6-6.15.—Teens' Corner.

7.0 onwards.—Programme S.B. from London.

FRIDAY, December 5th.

3.30-4.30. Lyons Café Orchestra

6.15-6.30. CHILDREN'S CORNER.

6.40-6.55. Teens' Corner

7.0.—WEATHER FORECAST and NEWS.

S.B. from London

G. A. ATKINSON, S.B. from London.

7.15-7.30 Concert.—Items contributed by

DORIS CARTER (Soprano).

LADYS JONES (Contralto).

FREDERICK MOUNTNEY (Solo

Vocal).

EDWARD LIVEING (Story teller).

9.40-10.30 Programme S.B. from London.

SATURDAY, December 6th.

10.4-11.30.—Scala Picture Theatre Orchestra.

11.40-12.30.—CHILDREN'S CORNER.

1.0-1.15.—Teens' Corner

1.20-1.30.—Programme S.B. from London.

WILLIAM TURNER'S 19th Annual Concert.

Rehearsal from the Albert Hall Nottingham

1.30-1.45.—CHILDREN'S CORNER.

1.50-2.05.—Teens' Corner

2.10-2.25.—Programme S.B. from London.

2.30-2.45.—CHILDREN'S CORNER.

2.50-3.05.—Teens' Corner

3.10-3.25.—Programme S.B. from London.

3.30-3.45.—CHILDREN'S CORNER.

3.50-4.05.—Teens' Corner

4.10-4.25.—Programme S.B. from London.

4.30-4.45.—CHILDREN'S CORNER.

4.50-5.05.—Teens' Corner

5.10-5.25.—Programme S.B. from London.

5.30-5.45.—CHILDREN'S CORNER.

5.50-6.05.—Teens' Corner

6.10-6.25.—Programme S.B. from London.

6.30-6.45.—CHILDREN'S CORNER.

6.50-7.05.—Teens' Corner

7.10-7.25.—Programme S.B. from London.

7.30-7.45.—CHILDREN'S CORNER.

7.50-8.05.—Teens' Corner

8.10-8.25.—Programme S.B. from London.

8.30-8.45.—CHILDREN'S CORNER.

8.50-9.05.—Teens' Corner

9.10-9.25.—Programme S.B. from London.

9.30-9.45.—CHILDREN'S CORNER.

9.50-10.05.—Teens' Corner

10.10-10.25.—Programme S.B. from London.

10.30-10.45.—CHILDREN'S CORNER.

10.50-11.05.—Teens' Corner

11.10-11.25.—Programme S.B. from London.

11.30-11.45.—CHILDREN'S CORNER.

11.50-12.05.—Teens' Corner

Uncle Fellows calling!



The New Super-One.

Has a very loud and clear voice, as well on its own. And a few fellows set to help it along.

It seems as if the Super-One is just going to meet the popular demand, too. The crystal enthusiasts of last year are rapidly becoming the valve experts of this. And when they've seen my new set they won't take long to become enthusiasts as well.

Even I, who expected it, was quite enthusiastic about its performance. I sat in my house in London with my Lightweight Headphones on and heard Birmingham comfortably. And when I fitted the Amplifier, 2LO came in nicely on my Junior Loud Speaker. A good aerial and earth of course, but not a bad performance all the same, and the reproduction was perfect.

It looks such a handsome little set too. Mounted in a neat black cabinet it's an ornament to any room. So is the amplifier which is finished in exactly the same manner. I don't think I need say much about the price. Our policy holds good for the Super-One as it does for all our sets.

Quality apparatus at low cost.

Uncle Fellows

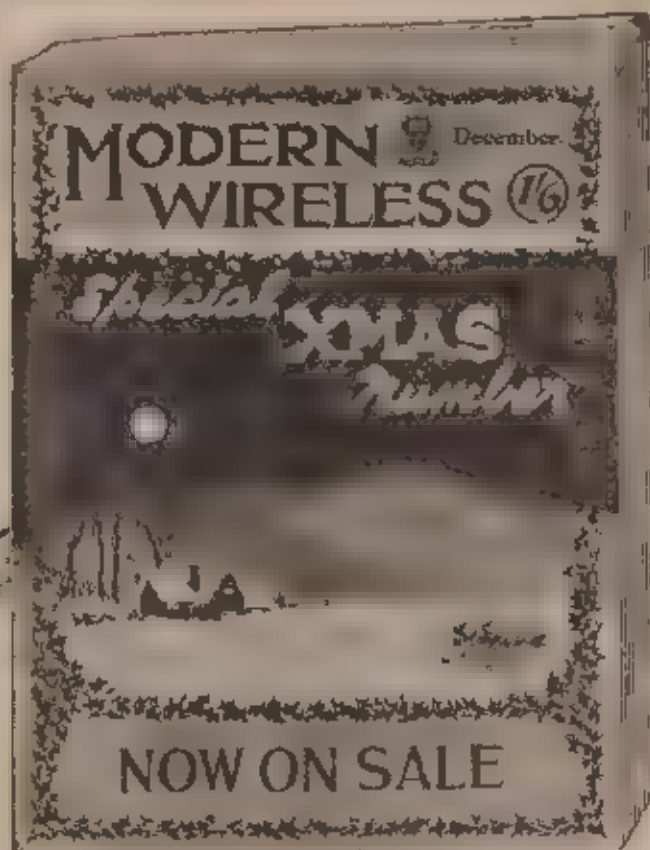
FELLOWS WIRELESS



Super-One Valve Set	
Price of Cabinet with set	£12 4 0
5-amp. 1000 ohm 2500 valve	£12 4 0
10-amp. 1000 ohm 2500 valve	£12 4 0
15-amp. 1000 ohm 2500 valve	£12 4 0
20-amp. 1000 ohm 2500 valve	£12 4 0
25-amp. 1000 ohm 2500 valve	£12 4 0
30-amp. 1000 ohm 2500 valve	£12 4 0
35-amp. 1000 ohm 2500 valve	£12 4 0
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45-amp. 1000 ohm 2500 valve	£12 4 0
50-amp. 1000 ohm 2500 valve	£12 4 0
55-amp. 1000 ohm 2500 valve	£12 4 0
60-amp. 1000 ohm 2500 valve	£12 4 0
65-amp. 1000 ohm 2500 valve	£12 4 0
70-amp. 1000 ohm 2500 valve	£12 4 0
75-amp. 1000 ohm 2500 valve	£12 4 0
80-amp. 1000 ohm 2500 valve	£12 4 0
85-amp. 1000 ohm 2500 valve	£12 4 0
90-amp. 1000 ohm 2500 valve	£12 4 0
95-amp. 1000 ohm 2500 valve	£12 4 0
100-amp. 1000 ohm 2500 valve	£12 4 0

ADVT. OF THE FELLOWS MAGNETO CO., LTD. PARK ROYAL, LONDON, N.W. 10

BUY THIS SPLENDID XMAS NUMBER



GRAND DOUBLE NUMBER ON SALE EVERYWHERE, Dec. 1st

Build the great new 4-valve T.A.T. RECEIVER,
a brilliantly successful set working on a new
system of multi-stage H.F. amplification!

1/6
PER COPY.

This fascinating article by John Scott-Taggart, F.Inst.P., A.M.I.E.E., the Editor of "MODERN WIRELESS," gives the fuller constructional details of a 2 H.F. set built purely and simply for long-range reception. The fact that this is the first of eight 2 H.F. sets described by him, whose reputation in valve circles is unparalleled is significant in itself. Six B.B.C. Stations varying from 50 to 350 miles figure in the detailed test report as giving excellent loud-speaker results. Another very important article is a complete account of the Armstrong

Superheterodyne and its recent development by Edwin H. Armstrong. Mr. Harris, Editor of "THE WIRELESS CONSTRUCTOR," also contributes a very interesting constructional article on a new 3-valve set. Mr. J. B. Barber has an article of great interest dealing with Loose-Coupled Single Valve set while Mr. A. D. Cowper M.Sc. contributes a very special article on reception on the Ultra Short Waves, a new starving field at work almost unknown to many.

PLACE YOUR ORDER IMMEDIATELY.

(SPECIAL DOUBLE XMAS NUMBER)

MODERN WIRELESS

Advt. of The Radio Press Ltd., Bush House,
Strand, London, W.C.2

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F.Inst.P., A.M.I.E.E.

A Roberts Receiver for Plug in Coils.
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B.Sc., F.R.Ae.S., F.R.Met.S.

Reception on the Ultra Short Waves.
By A. D. Cowper M.Sc.

And numerous other interesting and well illustrated articles, hints and tips, etc.

Plymouth Programme.

SPY 335 M.

Week Beginning Sunday, November 30th.

SUNDAY, November 30th.

2.0-5.30. } Programme S.B. from London.
8.30-10.40. }

MONDAY, December 1st, TUESDAY, December 2nd, and WEDNESDAY, December 3rd.

3.00-4.30 Ernest Manning and his Orchestra, relayed from the New Palladium Cinema. Vocalist, Dorothy Lincoln (Soprano).

5.30-6.30. CHILDREN'S CORNER.

7.0 onwards. Programme S.B. from London

THURSDAY, December 4th, and SATURDAY, December 6th

4.0-5.0 Albert Fulbrook and his Trio, relayed from the Royal Horse

5.30-6.30. CHILDREN'S CORNER

7.0 onwards. Programme S.B. from London

FRIDAY, December 5th.

3.0-4.0. Talks to Schools.

Mr. C. P. DYMOND M.A., "History"

Mr. W. P. WILKINS, A.R.A.M., "The Appreciation of Music"

4.0-5.0. Albert Fulbrook and his Trio relayed from the Royal Horse

5.30-6.30. CHILDREN'S CORNER

WEATHER FORECAST and NEWS

S.B. from London

G. A. ATKINSON. S.B. from London.

Local News.

Operatic Night.

ALICE LAKIN (Contralto).

ARTHUR MARTIN (Tenor)

BAND OF H.M. ROYAL MARINES

(PLYMOUTH DIVISION)

By permission of Col. Command P. C. Edwards and Officers R.M.

Director of Music

Lead. P. E. G. O'DONNELL M.V.O.

7.30. The Band

10.0-11.0. Pops and Songs

8.0-9.0. "The Gipsy" - Sydney Jones

Alice Lakin.

"When Two are Parted" ("Gilda Salsino") Songs Mrs. A. L. (With Orchestral Accompaniment.)

"O Peaceful England" ("Merrie England") German

8.0. The Band.

9.0-10.0. Songs

10.0-11.0. "The Line" Dr. H. C. Carter (W.)

11.0-12.0. "The Line" Dr. H. C. Carter (W.)

12.0-1.0. "The Line" Dr. H. C. Carter (W.)

1.0-2.0. "The Line" Dr. H. C. Carter (W.)

2.0-3.0. "The Line" Dr. H. C. Carter (W.)

3.0-4.0. "The Line" Dr. H. C. Carter (W.)

4.0-5.0. "The Line" Dr. H. C. Carter (W.)

5.0-6.0. "The Line" Dr. H. C. Carter (W.)

6.0-7.0. "The Line" Dr. H. C. Carter (W.)

7.0-8.0. "The Line" Dr. H. C. Carter (W.)

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9.0-10.0. "The Line" Dr. H. C. Carter (W.)

10.0-11.0. "The Line" Dr. H. C. Carter (W.)

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A YEAR ago Continental Broadcasting, as received in this country, was more a matter for the experimenter. But to-day a great change has been wrought. Now Stations in every European country are springing up almost overnight! Splendid programmes are now available for all who will take the trouble to equip themselves for it. From Scandinavia to Spain the ether is alive—take advantage of it.

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For long-distance work use a Cossor P 2. (the valve with the red top) in the high frequency socket, and a Cossor P 1. as a

Detector. These two valves have been definitely worked out as a combination where the greatest efficiency is required.

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P	For Detector and L.F. use 12/6	Model A. (With resistance in base for use with 2, 4 or 5-watt accumulators)	Model B. (Without resistance working direct from 200 accumulator)
F2	(With Red top) for H.F. use 12/6	W1. For Detector and L.F. use 23/6	W1. For Detector and L.F. use 21/-
		W2. (With Red top) for H.F. use 23/6	W2. (With Red top) for H.F. use 21/-

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SUNDAY, November 30th

3.0 5.30.—Programme S.B. from London.

8.1 Service
Delayed from the Netbar Congregational Church

Preacher: The Rev. P. M. MEJHAFT
9.0-10.10.—Programme S.B. from London.

MONDAY Dec 1st, to THURSDAY, Dec. 4th

1.0-1.15.—One Record.

2.0-2.15.—W. J. S. 11.01

3.0-3.15.—W. J. S. 11.01

4.0-4.15.—W. J. S. 11.01

FRIDAY, December 5th

11.0-11.15.—W. J. S. 11.01

11.15-11.30.—W. J. S. 11.01

6.0 5.30. WOMEN'S HALF HOUR

7.30 6.30. CHILDREN'S CORNER

8.0-8.15.—W. J. S. 11.01

9.0-9.15.—W. J. S. 11.01

10.0-10.15.—W. J. S. 11.01

11.0-11.15.—W. J. S. 11.01

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HARRY SKERRITT (Soprano)

MARCEL BAKER (Soprano)

RALEIGH H. L. (Soprano)

CHARLES H. L. (Soprano)

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CHARLES H. L. (Soprano)

SATURDAY, December 6th

3.0 4.30.—Programme S.B. from Manchester.

5.0-5.30.—WOMEN'S HALF HOUR

6.0-6.30.—CHILDREN'S CORNER

7.0.—Programme S.B. from London.

8.0.—Station Director's Talk. Local News.

9.0-12.0.—Programme S.B. from London.



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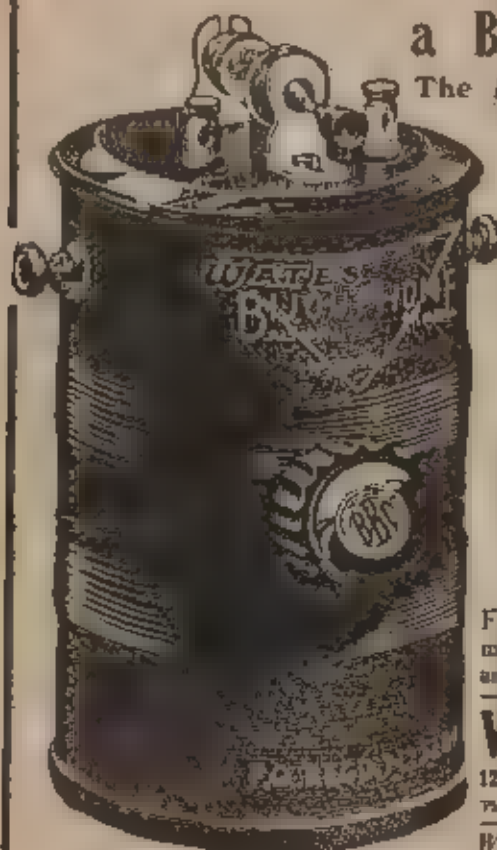
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VARIOMETER TUNING, MOULDED UNBREAKABLE TOP AND BASE, NICKEL-PLATED FITTINGS, ENCLOSED DETECTOR WITH BEST QUALITY CRYSTAL AND POINT.

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For Local Station only (250-700 metres). Same distinctive features as above. Price 7/6 Complete

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SPECIAL STOUT PLATES, held in position by the ribs of the glass containers. Specially recommended for valve filament lighting.

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Robust plates with oblique separators and non-corrosive terminals, in strong painted wood crates, with leather carrying handle.



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2	80 "	16/6	3/-	6	20 "	22/6	1/6
2	100 "	18/6	3/-	6	40 "	28/6	1/6
4	40 "	20/6	3/6	6	60 "	37/-	3/6
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Everybody wants a good Handkerchief. Xcellent quality, and reliable.

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Made in sizes for Ladies and Gentlemen.
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Six Sixty

One accumulator re-charge will suffice when "Six-Sixty" dual-amitter valves are used where ten or twelve have been necessary with ordinary valves. And this great economy is not secured at the expense of clarity of reception or volume: the "Six-Sixty" improves both. Test and compare the performance of "Six-Sixty" yourself!

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Filament Volts—
8 to 2

Filament Current—
24 amps

20/-

Post Free.
Cash with order.

Stoke - on - Trent Programme.

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Week Beginning Sunday, November 30th.

SUNDAY, November 30th.

8-5.20. Programme S.B. from London.
8.30. Hymn 403, "Jesus Calls Us."
Religious Address: The Rev. F. J. Key,
M.A., Rector of St. Peter and Rural Dean
of Stoke-on-Trent.
Hymn 46. "The Advent of the King."
9.0-10.40. Programme S.B. from London.

MONDAY, December 1st, and WEDNESDAY,
December 3rd.

3.30-4.30. The Majestic Cinema Orchestra.
Musical Director—Thomas Beckett.
5.0-6.0. CHILDREN'S CORNER.
7.0-11.0.—Programme S.B. from London.

TUESDAY, December 2nd, and THURSDAY,
December 4th.

3.30-4.30. The Majestic Cinema Orchestra.
Musical Director—Thomas Beckett.
5.0-6.0. CHILDREN'S CORNER.
7.0-10.30.—Programme S.B. from London.

FRIDAY, December 5th.

3.30-4.30. The Majestic Cinema Orchestra.
Musical Director—Thomas Beckett.
5.0-6.0. CHILDREN'S CORNER.
7.0.—WEATHER FORECAST and NEWS.
S.B. from London.
G. A. ATKINSON, S.B. from London.
Local News.

Concerts and Dramatic Evening.
HUBERT E. SHEPHERD'S SINGING
GUILD.

WILLIAM MACREADY
EDNA COLLETT TURNER
DORA VANDRAY (Soprano).

7.30. The Orchestra.
Selections from "The Swan Lake."
(1) Prelude; (2) Swan Song; (3) Swan
(4) March.

7.45. William Macready and Edna Collett Turner.
Selections from their Shakespearean
Repertoire.

8.15. "Magical Musical"..... Schubert.
E. Strakos, "Lied du Bol"..... G. Diet.
Soprano Songs.

8.25. Now Sleeps the Crown Prince.
Guitar (1).

8.30. Sing Sweet Bird..... Guit.
The Orchestra.
Prelude Music..... Julius Harrison 2.
Jolly Song Suite..... Guit.
(1) Prelude; (2) Saraband; (3) Gavotte;
(4) Air; (5) Rigaudon.

8.45. "MARRIED LIFE."
A Farce in One Act by Donald Edwards.
Edna Collett Turner.
Arlecchino..... WILLIAM MACREADY.
Scenes from "A Yearning Heart."

9.30. WEATHER FORECAST and NEWS.
S.B. from London.
Sir GEORGE NEWMAN S.B. from
London. Local News.

10.0. Soprano Songs.
"Rose Softly Blooming"..... Spoke.
The Chorus..... E. A. Latham.

10.10. The Orchestra.
"St. Paul's Suite"..... Gustav Holst (2).
(1) Jig; (2) Ostinato; (3) Intermezzo;
(4) The Dargason.
Finale from Suite on Russian Themes.

10.30.—Close down.

SATURDAY, December 6th.

3.30-4.30.—The Majestic Cinema Orchestra.
Musical Director—Thomas Beckett.
5.0-6.0. CHILDREN'S CORNER.
7.0-12.0.—Programme S.B. from London.

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My trouble was a bad earth.

It's yours as well
if you only knew
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cable to be run down
the hole.

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show that it is a most
efficient and reliable
method of earthing and
improving efficiency.

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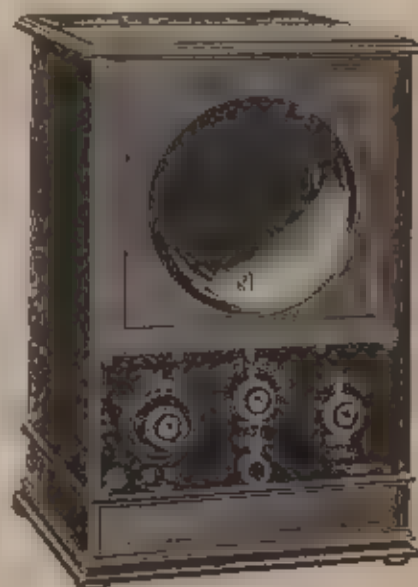
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It hardly seems worth while going
to that concert to-night. We can
get all the best music from our
Lyrianette without the least bother,
and it is so much more comfortable
to stay at home. I could rave
about the wonder of that little
Lyrianette—so compact, simple
and beautiful, and yet so thoroughly
efficient. No bother with accu-
mulators—everything so neatly
stowed away inside and no un-
sightly wires visible. Music comes
so clearly from the Lyrianette.
It seems futile to go out into the
cold nights for entertainment when
you can have it amidst your own
home comforts.

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Complete. Price
£22 5s. 0d.

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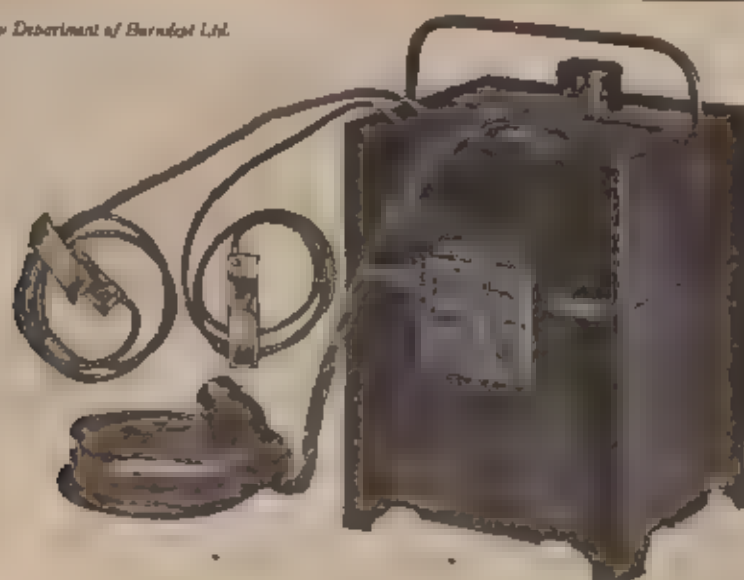
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Battery Charger
200-240 volts, 50-
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Without acid or
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£5 15s. 0d.

A noiseless Battery Charger

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YOUR wireless set will give the best results if you keep your battery fully charged—and the life of the battery will be considerably prolonged. If your electric supply is alternating, the Balkite Charger is the cheapest—simplest—cleanest and most convenient method—you only plug it into your electric light socket.

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This Charger has no moving parts, and nothing to break, adjust or get out of order. It cannot deteriorate through use or disuse. It delivers a taper charge, and cannot discharge, shortcircuit, or damage the battery by overcharging. It needs no attention other than an occasional filling with distilled water. Its operation does not create disturbances in your set or your neighbours. It is simple, efficient, cannot fail to operate if properly connected, and is practically indestructible except through abuse.

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The two great names behind The Valve in the Purple Box

Since the first days of wireless the name MARCONI has been identified with every forward achievement. That unique knowledge has been added to the vast experience of the OSRAM manufacturing organisation. To these combined efforts in research and valve production is largely due the present-day development of wireless as a pastime for the million.

MARCONI VALVES

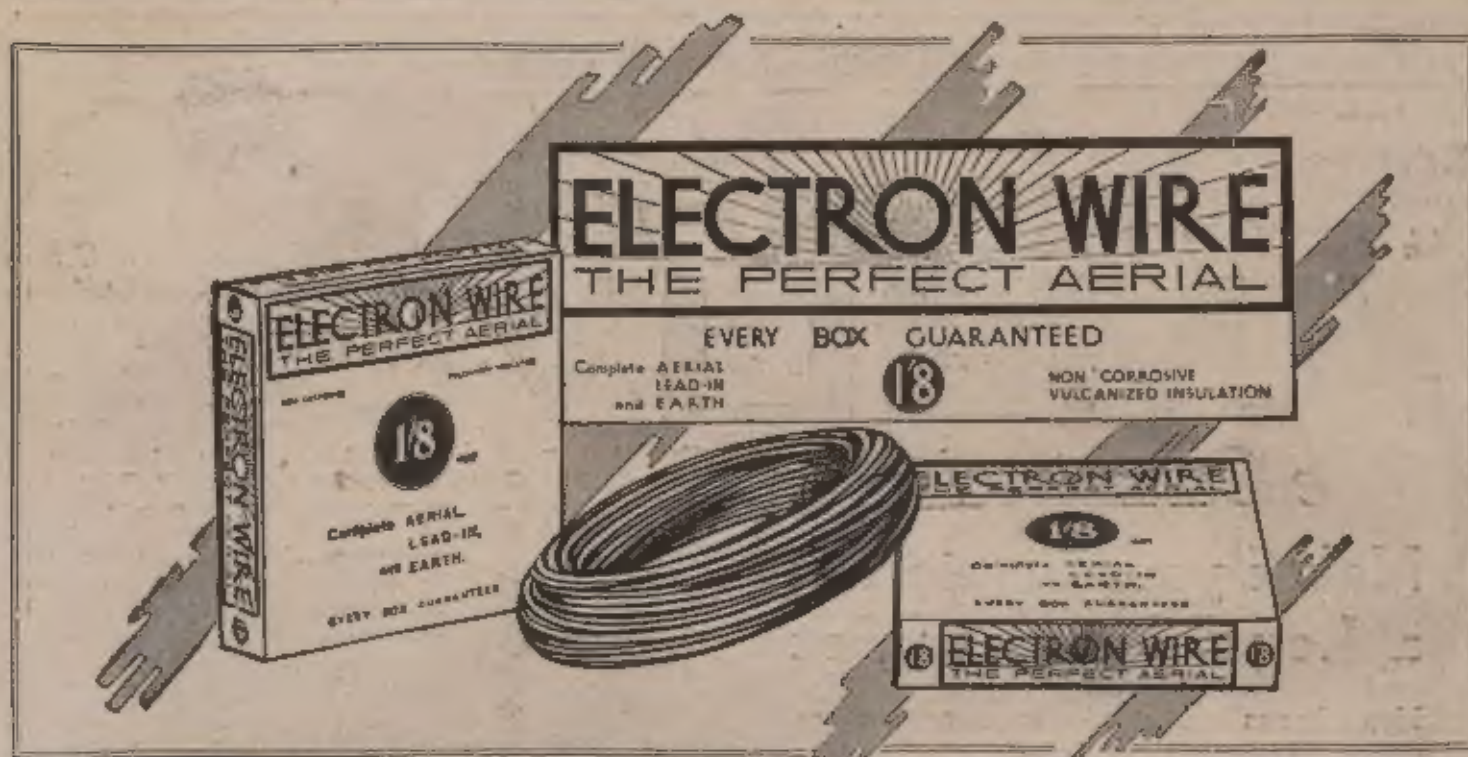
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Get the Valve in the Purple Box!



All the people who read the "Radio Times" will use "Electron Wire"

WHY? Because they know that careful consideration must be first given to the aerial before they can get every ounce of volume and clarity from their set (whether it be a crystal or multi-valve set).

NOW, the experimenter who is not careful may be influenced by the shopkeeper dependant upon occasional sales and will finally emerge from the shop with a bulky package containing Aerial, Lead in Tubes, Insulators, and other costly incidentals, eventually, he will have to contend with the proposition of erecting an unsightly mast.



The Careless man with the bulky parcel of costly incidentals.

The careful man on the contrary goes to the nearest wireless dealer and buys a neat little box of ELECTRON WIRE, the Perfect Aerial, for 1/8—which is all he needs—he goes home with the satisfaction of knowing that nobody else in the world could get better results than he himself.



The Careful Man with a neat box of Electron Wire.

The **CHEAPEST AERIAL** **1/8** and the Best in the World. Postage 6d.

Also laid double for extending Phones, Loud Speaker, etc.

Two 150 foot lengths twisted. 300ft. 5/-

Two 250 foot lengths twisted. 500ft. 8/-

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Carriage Paid.

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"The Sterling AMPLIVOX"

The Combined Loud Speaker & Amplifier

**Makes your Crystal Set
a Loud Speaker Set**

Headphones are good but sometimes so selfish. Usually there is someone "out in the cold" wanting and waiting to listen.

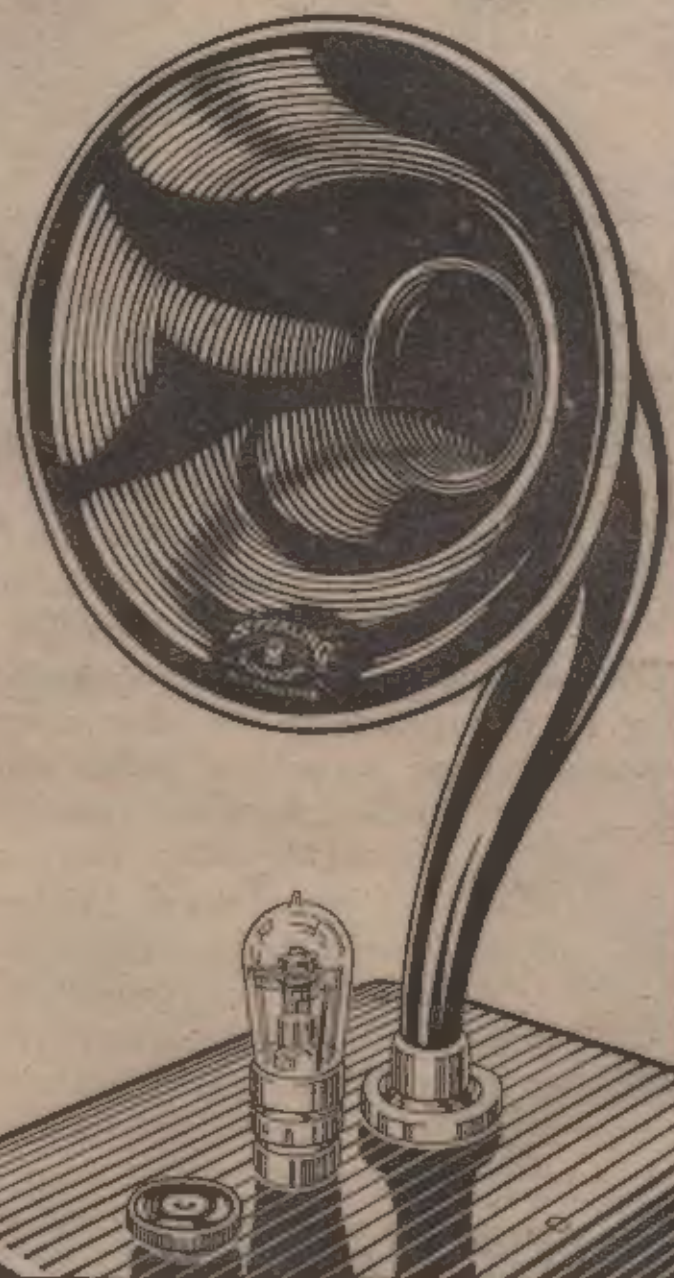
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For here, in one complete unit lies the ability to provide perfect loud speaker reproduction within a radius of five miles from a transmitting station.

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Sterling Lightweight Headphones (4,000 ohms) . . . 25/-
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